

AD678736

CBE FACTORS

*Monthly Survey No. 35*

ATD Work Assignment No. 50

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## **FOREWORD**

This report is the thirty-fifth in a series of monthly surveys covering the following areas:

- I. CHEMICAL FACTORS -**
  - Pesticides
  - Herbicides
  - Fertilizers
  - Psychotomimetics
  - Other Chemicals
- II. BIOLOGICAL FACTORS**
  - Pathogens
- III. ENVIRONMENTAL FACTORS**
  - Aerosols
  - Ecology
  - Micrometeorology
  - Soil Science

Titles of publications cited in Sections I—III are listed alphabetically in Appendix I. Author's organizations are listed alphabetically in Appendix II. An author index is included as Appendix III. There is no bibliography.

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# **I. CHEMICAL FACTORS**

ACC NR: AP8022984

SOURCE CODE: UR/0079/68/038/006/1315/1320

AUTHOR: Abramov, V. S.; Shalman, A. L.; Bulgakova, A. P.

ORG: Kazan Veterinary Institute im. N. Ye. Bauman (Kazanskiy veterinarnyy institut)

TITLE: Reaction of dialkylphosphinic acids with aldehydes and ketones.  
XXXV. Esters of  $\alpha$ -hydroxychloroisopropylphosphonic acids

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1315-1320

TOPIC TAGS: organic phosphorus insecticide, phosphonate ester, chlorinated organic compound, chlorinated phosphonate ester

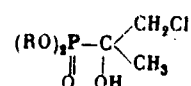
ABSTRACT: In a search for new organophosphorus insecticides, a series of the title esters was synthesized by the reactions of mono-, di-, tri-, tetra-, and pentachloroacetone with the appropriate acids on heating the reaction mixture for 10-15 da at 40-120°C. The new esters are characterized in Tables 1, 2, 3, 4, 5, 6, and 7. The structure of the

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UDC: 547.26'118

ACC NR: AP8022984

Table 1



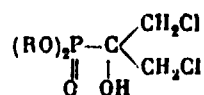
No.	R	% Yield	$d_4^{20}$	$n_D^{20}$
1	$\text{ClC}_2\text{H}_4^*$	82	1.4245	1.5010
2	$\text{ClCH}_2\text{CHCH}_3$	70	1.3352	1.5660
3	$\text{ClCH}_2\text{CHClCH}_3$	75	1.4640	1.5070
4	$(\text{ClCH}_2)_2\text{CH}$	65	1.4464	1.4960
5	$\text{BrC}_2\text{H}_4$	47	1.6138	1.5135
6	$\text{CH}_3\text{OC}_2\text{H}_4$	67	1.2478	1.4702
7	$\text{C}_6\text{H}_5\text{OC}_2\text{H}_4$	80	1.2174	1.4690
8	$\text{C}_6\text{H}_5\text{OC}_2\text{H}_4$	68	1.1082	1.4598
9	$\text{C}_6\text{H}_{11}\text{OC}_2\text{H}_4$	74	1.0523	1.4515

\* Mp 57°.

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ACC NR: AP8022984

Table 2

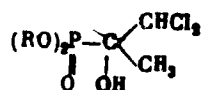


No.	R	% Yield	$d_4^{20}$	$n_D^{20}$
1	$\text{ClC}_6\text{H}_4$	94	1.5004	1.5035
2	$\text{ClCH}_2\text{CHCH}_3$	75	1.4070	1.4975
3	$\text{ClCH}_2\text{CHClCH}_3$	80	1.5182	1.5170
4	$(\text{ClCH}_2)_2\text{CH}$	68	1.4860	1.5015
5	$\text{BrC}_6\text{H}_4$	71	1.7761	1.5170
6	$\text{BrC}_6\text{H}_3$	52	1.6682	1.5190
7	$\text{CH}_3\text{OC}_6\text{H}_4$	71	1.3283	1.4788
8	$\text{C}_6\text{H}_5\text{OC}_6\text{H}_4$	65	1.2730	1.4806
9	$\text{C}_6\text{H}_5\text{OC}_6\text{H}_3$	85	1.1752	1.4692
10	$\text{C}_6\text{H}_{11}\text{OC}_6\text{H}_4$	87	1.1001	1.4665

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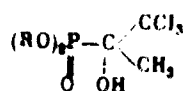
ACC NR: AP8022984

Table 3



No.	R	% Yield	$d_4^{20}$	$n_D^{20}$
1	$\text{C}_6\text{H}_5$	72	1.2831	1.4574
2	$\text{IsOC}_6\text{H}_4$	73	1.1980	1.4475
3	$\text{ClC}_6\text{H}_4$	68	1.4642	1.4911
4	$\text{ClCH}_2\text{CHCH}_3$	75	1.3610	1.4795
5	$(\text{ClCH}_2)_2\text{CH}$	65	1.4595	1.4932
6	$\text{BrC}_6\text{H}_4$	73	1.7213	1.5000

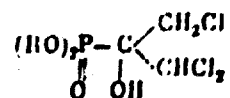
Table 4



No.	R	% Yield	$d_4^{20}$	$n_D^{20}$
1	$\text{IsOC}_6\text{H}_4$	80	1.2493	1.4567
2	$\text{ClC}_6\text{H}_4$	87	1.4974	1.4950
3	$\text{ClCH}_2\text{CHCH}_3$	56	1.4081	1.4832
4	$\text{BrC}_6\text{H}_4$	75	1.7490	1.5011

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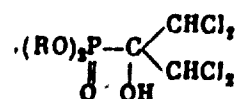
Table 5



No.	R	% Yield	d <sub>4</sub> <sup>20</sup>	n <sub>D</sub> <sup>20</sup>
1	CH <sub>3</sub> OC <sub>2</sub> H <sub>5</sub>	80	1.4055	1.4868
2	C <sub>2</sub> H <sub>5</sub> OC <sub>2</sub> H <sub>5</sub>	82	1.2260	1.4770
3	C <sub>3</sub> H <sub>7</sub> OC <sub>2</sub> H <sub>5</sub>	78	1.1411	1.4820
4	ClCH <sub>2</sub> CHClCH <sub>3</sub>	72	1.4582	1.6012
5	(ClCH <sub>2</sub> ) <sub>2</sub> CH	73	1.5663	1.5228
6	(ClCH <sub>2</sub> ) <sub>2</sub> CH	72	1.5351	1.5050
7	BrC <sub>2</sub> H <sub>5</sub>	62	1.8420	1.5350

\* Mp 68—70°.

Table 6



No.	R	% Yield	d <sub>4</sub> <sup>20</sup>	n <sub>D</sub> <sup>20</sup>
1	CH <sub>3</sub> OC <sub>2</sub> H <sub>5</sub>	89	1.4422	1.4873
2	C <sub>2</sub> H <sub>5</sub> OC <sub>2</sub> H <sub>5</sub>	93	1.3690	1.4852
3	C <sub>3</sub> H <sub>7</sub> OC <sub>2</sub> H <sub>5</sub>	86	1.2844	1.4826
4	C <sub>2</sub> H <sub>5</sub> OC <sub>2</sub> H <sub>5</sub>	85	1.1543	1.4607
5	ClC <sub>2</sub> H <sub>5</sub>	87	1.5902	1.5132

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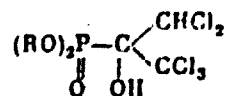
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Table 6. (Cont.)

6	ClCH <sub>2</sub> CHClCH <sub>3</sub>	76	1.5850	1.5030
7	ClCH <sub>2</sub> CHClCH <sub>3</sub>	90	1.6014	1.5258
8	(ClCH <sub>2</sub> ) <sub>2</sub> CH	87	1.5712	1.5100

\* Mp 69—70°.

Table 7



No.	R	% Yield	d <sub>4</sub> <sup>20</sup>	n <sub>D</sub> <sup>20</sup>
1	CH <sub>3</sub>	88	1.6203	1.4965
2	C <sub>2</sub> H <sub>5</sub>	70	1.5324	1.4920
3	C <sub>3</sub> H <sub>7</sub>	78	1.3772	1.4750
4	isoC <sub>4</sub> H <sub>9</sub>	84	1.3942	1.4725
5	isoC <sub>4</sub> H <sub>9</sub>	72	1.2934	1.4630
6	C <sub>4</sub> H <sub>9</sub>	68	1.2591	1.4612
7	ClC <sub>2</sub> H <sub>5</sub>	85	1.5632	1.4942

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ACC NR:

AP8022984

new esters was confirmed by IR spectra. Studies of the physiological activity of the new esters showed that they have high insecticidal properties. Orig. art. has: 7 tables. [WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 10Jul67/ ORIG REF: 105/ OTH REF: 002

Card

7/7

ACC NR:

AP8022988

SOURCE CODE: UR/0079/68/038/006/1330/1334

AUTHOR: Bel'skiy, V. Ye.; Bazzubova, N. N.; Gorman, I. P.

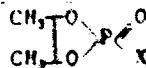
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences USSR, Kazan' (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Kinetics of the hydrolysis of 2-butene-1,3-diolcyclophosphoric acid derivatives

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1330-1334

TOPIC TAGS: hydrolysis, organic phosphorus compound, sulfur compound, chemical kinetics, phosphate ester, organic phosphoramidate

ABSTRACT: The kinetics of acid, alkali, and aqueous hydrolysis of the anions Ia, Ib, and Ic:



(Ia) X = O<sup>-</sup>; (Ib) X = N(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>; (Ic) X = SC<sub>2</sub>H<sub>5</sub>

was studied as a function of time and temperature. The results are reported in Tables 1-4 and Figures 1 and 2.

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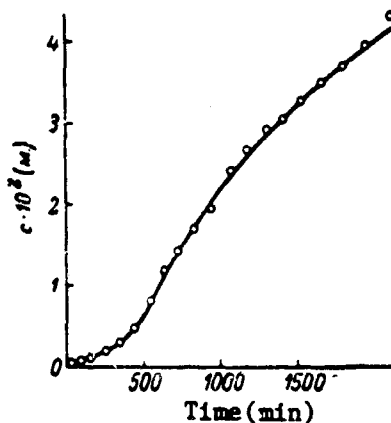
UDC: 541.127.3+542.938:547.26'118

ACC NR:

AP8022988

Table 1. Hydrolysis of the anion of 2-butene-1,3-diolcyclophosphoric acid in 0.01 N KOH

K (l·mole <sup>-1</sup> ·min)					E (Kcal/mole)	lg A
40°	50°	60°	70°	80°		
1.04	2.36	5.18	10.9	23.7	17.1	11.96

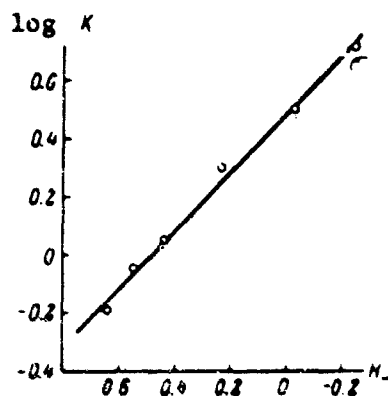
Fig. 1. Change in the concentration of  $H_3O^+(C)$  during the hydrolysis of 0.0024M solution of 2-butene-1,3-diolcyclophosphoric acid anion in water at 98°C

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ACC NR:

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Fig. 2. Dependence of log K on  $H^+$  in the acid hydrolysis of 2-butene-1,3-diolcyclophosphoric acid anionTable 2. Hydrolysis of 2-butene-1,3-diolcyclophosphoric acid anion in  $H_2SO_4$  solutions at 10°C

$H_2SO_4 (M)$	0.0874	0.125	0.198	0.243	0.324
$K (min^{-1})$	0.0603	0.155	0.317	0.415	0.645
$H_2SO_4 (M)$	0.396	0.494	0.705	0.942	1.29
$K (min^{-1})$	0.897	1.12	1.94	3.16	5.11

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ACC NR:

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Table 3. Hydrolysis of diethylamide of 2-butene-1,3-diolcyclophosphoric acid in water

$10^4 \cdot k \text{ (min}^{-1}\text{)}$				Kcal/ mole	$\log A$
70°	80°	90°	98°		
0.575	1.13	2.01	3.07	15.7	6.76

Table 4. Hydrolysis of S-ethyl ester of 2-butene-1,3-diolcyclophosphoric acid in water

$k \text{ (min}^{-1}\text{)}$				Kcal/ mole	$\log A$
25°	35°	45°	55°		
0.124	0.207	0.374	0.600	8.7	5.48

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ACC NR:

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The results revealed that the rate of hydrolysis of 2-butene-1,3-diolcyclophosphoric acid derivatives decreased in the order  $OC_2H_5 > SC_2H_5 > N(C_2H_5) > O^-$ , as compared with the hydrolysis of cyclic derivatives of phosphoric acid:  $SC_2H_5 > OC_2H_5 > O^-$ . Orig. art. has: 2 figures and 4 tables.

[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 07Jul67/ ORIG REF: 004/ OTH REF: 005

Card

5/5

ACC NR:

AP8023366

SOURCE CODE: UR/0390/68/031/003/0296/0299

AUTHOR: Berezhinskaya, V. V. (Head, Candidate of medical sciences);  
Aleshinskaya, E. Ye.; Trutneva, Ye. A.

ORG: Laboratory of Public Medicine/Head--Candidate of Medical Sciences  
V. V. Berezhinskaya/, All-Union Scientific Research Institute of Medicinal  
and Aromatic Plants, Moscow (Laboratoriya narodnoy meditsiny Vsesoyuznogo  
nauchno-issledovatel'skogo instituta lekarstvennykh i aromaticeskikh  
rasteniy)

TITLE: Anticholinesterase activity of some alkaloids of the isoquinoline  
series

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 3, 1968, 296-299

TOPIC TAGS: anticholinesterase, cholinesterase inhibition, quaternary  
amine, tertiary amine, cholinesterase, isoquinoline alkaloid

ABSTRACT: The anticholinesterase activity of berberine (I), tetrahydro-  
berberine (II), tetrahydropalmatine (III) and palmatine (IV):

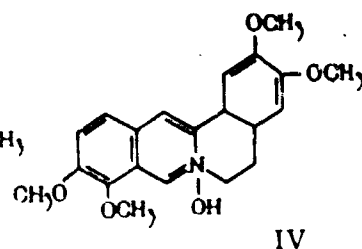
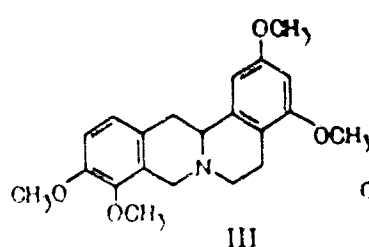
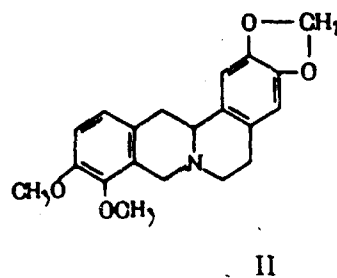
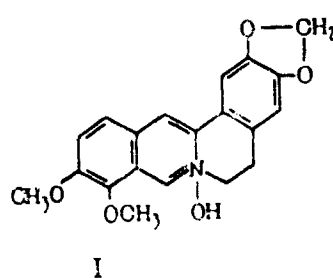
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UDC: 615.735-092:612.766.9

ACC NR:

AP8023366



Card

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ACC NR:

AP8023366

was studied on isolated frog muscles and on white mice. The effect of compounds I—IV on the sensitivity of the muscles to acetylcholine and the inhibition of cholinesterase by compounds I—IV was studied in vitro by the Heston method and in vivo by the Pokrovskiy method, using proserine (V) as a standard. The results are reported in Tables 1 and 2.

Table 1. Effect of the preparations on cholinesterase activity

Preparation	Cholinesterase activity coefficient (in %) in the reaction with the preparation						P <sub>100</sub>
	Concentration of the Preparation						
	1.7 · 10 <sup>-8</sup>	1.7 · 10 <sup>-7</sup>	1.7 · 10 <sup>-6</sup>	1.7 · 10 <sup>-5</sup>	1.7 · 10 <sup>-4</sup>	3.3 · 10 <sup>-3</sup>	
Specific cholinesterase							
V	91,6	68,4	32,2	0,2	—	—	7,2
I	—	98,3	87,3	55,9	25,0	11,2	5,5
IV	—	97,9	90,8	63,6	31,3	24,7	5,2
III							
II		—	—	99,6	99,9	—	—
		—	—	95,7	92,4	86,6	—

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ACC NR:

AP8023366

Table 1. (Cont.)

	Pseudocholinesterase						P <sub>100</sub>
	92.6	73.0	21.2	6.0	—	—	
V	92.6	73.0	21.2	6.0	—	—	7.2
I	—	98.0	88.4	85.3	31.2	9.2	5.1
IV	—	98.4	97.3	95.9	82.7	69.0	4.2
III	—	—	—	97.8	97.9	98.0	—
II	—	—	—	95.6	95.1	90.1	—

Table 2. Effect of the preparation on the activity of white mice blood cholinesterase

Preparation	Dose (in mg/kg)	Number of mice	Activity of blood cholinesterase 1—2 hr after subcutaneous introduction of the preparation		Preparation dose (mg/kg) causing 50% cholinesterase inhibition (ED <sub>50</sub> )		LD <sub>50</sub> (mg/kg)	Therapeutic index	
			Specific cholinesterase	Non-specific cholinesterase	Specific cholinesterase	Non-specific cholinesterase		Specific cholinesterase	Non-specific cholinesterase
			terase	terase	terase	terase		terase	terase
I	1	5	94.0	99.0	12	7	17.5 (15.5+19.7)	1.4	2.5
	5	15	69.6	44.4					
	10	15	55.8	44.0					

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ACC NR: AP8023366

Table 2. (Cont.)

IV	10	30	58,8	81,6					
Control	20	10	45,3	66,5	21	44	135 (194+144)	6,4	3
(physiological solution)	—	75	100	100	—	—	—	—	—

Compounds I and IV are strong cholinesterase inhibitors, while compounds II and III are not. This indicates that quaternary amines (I and IV) inhibit and tertiary amines (II and III) do not inhibit cholinesterase activity. Orig. art. has: 2 tables. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 10Feb67/ ORIG REF: 007/ OTH REF: 001

Card 5/5

ACC NR: AP8022671

SOURCE CODE: UR/0062/68/000/006/1369/1371

AUTHOR: Berezovskaya, I. V.; Yelisseyeva, L. A.; Kuznetsov, Ye. V.; Mukhametzyanova, E. Kh.; Shermergorn, I. M.

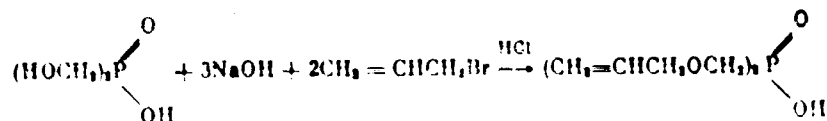
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR); Kazan Chemical Technology Institute im. S. M. Kirov (Kazanskiy khimiko-tehnologicheskii institut); Kazan State Medical Institute (Kazanskiy gosudarstvennyy meditsinskiy institut)

TITLE: Preparation and properties of bis(allyloxymethyl) phosphinic acid and its esters

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1968, 1369-1371

TOPIC TAGS: phosphorus compound, phosphinate ester, pharmacologic sensitivity

ABSTRACT: The title acid (I) was synthesized by the reaction:



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UDC: 542.91+661.718.1

ACC NR: AP8022671

which takes place at 70°C in the presence of NaOH. Treatment of I with trialkyl phosphites yielded the esters characterized in Table 1.

Table 1



R	% Yield	Bp, °C (mm)	$n_D^{20}$	$d_4^{20}$
H	64,0	250(1·10 <sup>-3</sup> )	1,4790	1,1535
CH <sub>3</sub>	62,0	90-92(3·10 <sup>-2</sup> )	1,4659	1,0940
C <sub>2</sub> H <sub>5</sub>	66,9	93-95 (3·10 <sup>-2</sup> )	1,4620	1,0670
C <sub>4</sub> H <sub>9</sub>	67,3	98-100(3·10 <sup>-2</sup> )	1,4613	1,0450
C <sub>6</sub> H <sub>5</sub>	62,0	105-110(3·10 <sup>-2</sup> )	1,4594	1,0301
C <sub>8</sub> H <sub>17</sub>	50,0	98-100(2,5·10 <sup>-2</sup> )	1,4710	1,0627

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ACC NR: AP8022671

Biological activity of the new esters was studied on white mice. The results are given in Figs. 1 and 2:

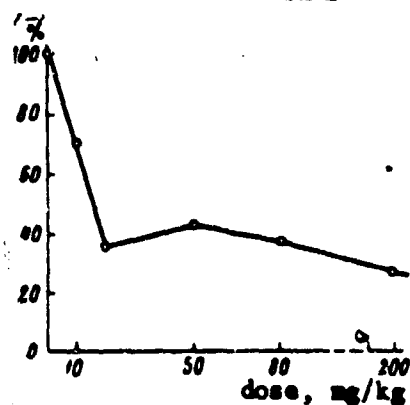


Fig. 1. The effect of ethyl ester of bis(allyloxymethyl) phosphinic acid on the orientation reaction of white mice. Orientation reactor of the animals in % of the control animal (100%) versus the dose of the preparation in mg/kg.

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ACC NR: AP8022671

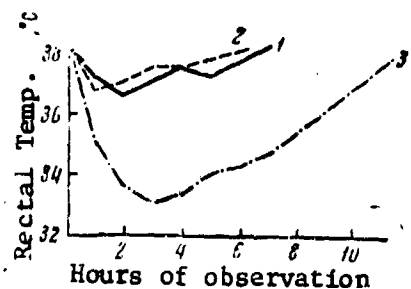


Fig. 2. Hypothermic action of ethyl ester of bis(allyloxymethyl)phosphinic acid and its combination with aminazine and barbamyl. 1--preparation dose 50 mg/kg; 2--aminazine, 5 mg/kg; 3--ethyl ester of bis(allyloxymethyl)phosphinic acid, 50 mg/kg + aminazine, 5 mg/kg

The ethyl of I has low toxicity (LD<sub>50</sub> 625 mg/kg) and a marked depressing effect on the central nervous system. Orig. art. has: 2 figures.  
[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 01Nov67/ ORIG REF: 003/ OTI REF: 001

Card 4/4

ACC NR: AP8022982 SOURCE CODE: UR/0079/68/038/006/1304/1312

AUTHOR: Filatova, I. M.; Zaytseva, Ye. L.; Simonov, A. P.; Yakubovich, A. Ya.

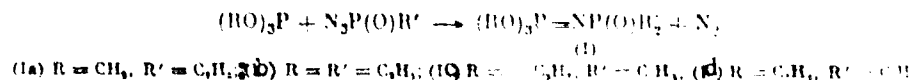
ORG: Institute of Physical Chemistry im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: A new type of rearrangement of esters of the phosphazene series

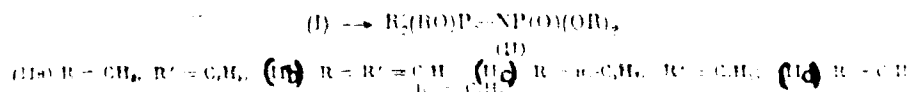
SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1304-1312

TOPIC TAGS: thermal isomerization, organic phosphorus compound, organic nitrogen compound, phosphazene

ABSTRACT: Compounds Ia-d were synthesized according to the reaction:



which takes place at 45-50°C. On heating (100-130°C), compounds I undergo thermal isomerization into compounds IIa-d:



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UDC: 547.26'118

ACC NR:

AP8022982

The structure of compounds I and II was confirmed by IR spectra and by parallel synthesis of compounds II. The compounds synthesized are characterized in the table. Analysis of the spectral data indicate that

Table 1.

No.	Compound	% Yield	Bp, °C (mm)	$d_4^{20}$	$n_D^{20}$
Ia	$(CH_3O)_3P=N-P(O)(C_2H_5)_2$	48	85-88° (0.04)	1.1711 <sup>a</sup>	1.4525 <sup>a</sup>
Ib	$(C_2H_5O)_3P=N-P(O)(C_2H_5)_2$	98	79-83 (0.03)	1.0744	1.4459
Ic	$(C_2H_7O)_3P=N-P(O)(C_2H_5)_2$	23	108-110 (0.03)	1.0374	1.4422
Id	$(C_2H_5O)_3P=N-P(O)(C_6H_5)_2$	61	Mp 59-61°	—	—
IIa	$(C_2H_5)_2(CH_3O)P=N-P(O)(OCH_3)_2$	68	100-101 (0.04)	1.1806	1.4592
		69 <sup>a</sup>	102-103 (0.03)	1.1700	1.4595
IIb	$(C_2H_5)_2(C_2H_5O)P=N-P(O)(OC_2H_5)_2$	54	102-105 (0.04)	1.0874	1.4488
		65	102-103 (0.03)	1.0869 <sup>ab</sup>	1.4490 <sup>ab</sup>

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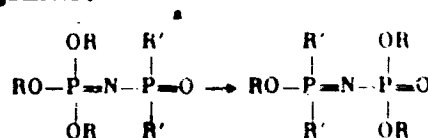
ACC NR:

AP8022982

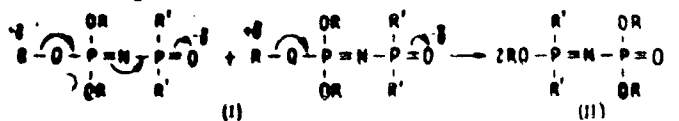
Table 1. (Cont.)

IIc	$(C_2H_5)_2(n-C_2H_7O)P=N-P(O)(OC_2H_5)_2$	46	119 (0.03)	1.0437	1.4510
		62	119-120 (0.03)	1.0417	1.4510
IId	$(C_6H_5)_2(C_2H_5O)P=N-P(O)(OC_2H_5)_2$	88	Mp 44-46°	—	—
		72	Mp 44.5-46°	—	—
V	$(C_6H_5)(C_2H_5O)_2P=N-P(O)(OC_2H_5)_2$	74	127.5-130 (0.06)	1.1476	1.4860

the thermal rearrangement:



called phosphazene-phosphoxide rearrangement, proceeds by the following mechanism:



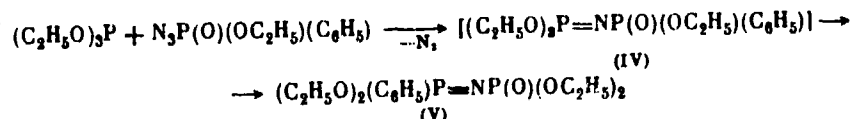
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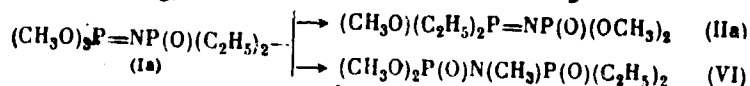
ACC NR:

AP8022982

The rearrangement rate decreased with increasing length of the alkoxy group. The rate sharply increased when ethyl was replaced by phenyl. In some cases the high rate of the rearrangement prevented isolation of the intermediate as in the preparation of V:



Phosphazene Ia, in addition to its isomerization into IIa, undergoes phosphazene-oxophosphazane rearrangement to form compound VI (mp 34 to 36.5°C):



Orig. art. has: 3 tables.

[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 03Jul67/ ORIG REF: 006/ OTH REF: 008

Card

4/4

ACC NR:

AP8022981

SOURCE CODE: UR/0079/68/038/006/1299/1304

AUTHOR: Fursenko, I. V.; Bakhvalov, G. T.; Nifant'yev, E. Ye.

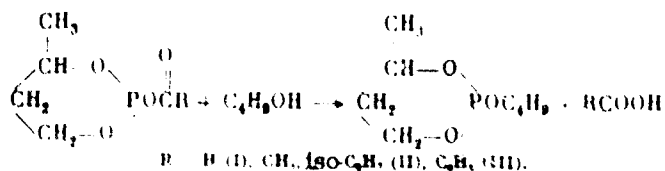
ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Synthesis and alcoholysis of dialkyl acyl phosphites and acyl diamidophosphites

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1299-1304

TOPIC TAGS: phosphorous acid, phosphorylation

ABSTRACT: The alcoholysis of acyl phosphites to form neutral esters:



was studied using various acyl phosphites (I-VII) to determine the effect of the radical (R) in the acyl group and of other substituents on the reactivity of the acyl phosphites. The rate of the neutral ester

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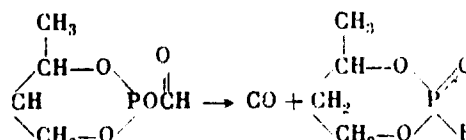
1/4

UDC: 547.26'118

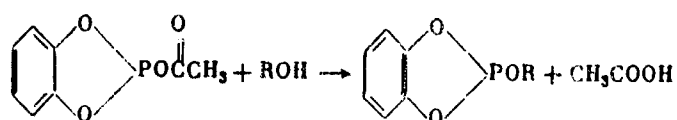
ACC NR:

AP8022981

formation is directly proportional to  $pK_a$  of the acid from which the acyl phosphite is formed. All acyl phosphites are effective phosphorylating agents. Formyl phosphites are highly reactive but unstable and readily decompose:



Acyl phosphites with higher R required harder reaction conditions (higher temperature and longer reaction time). Acetyl phosphites are probably the most suitable as phosphorylating agents. Neutral esters are also formed in the reaction of acetyl phosphites with various alcohols:



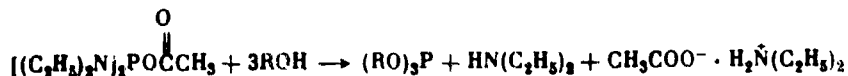
At a 1:3 acyl phosphite—alcohol ratio, the alcoholysis of acyl diamido-phosphites yielded trialkyl phosphites:

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ACC NR:

AP8022981



The initial acyl phosphites were obtained by the reaction of potassium acetate with the appropriate alkyl chlorophosphites in ether. The acyl

Table 1. Acyl phosphites

Compound	% Yield	Bp, °C (mm)	$d_4^{20}$	$n_D^{20}$
I	82.5	90° (3) (decomp)	1.2210	1.4570
II	73	104 (2)	1.1050	1.4550
III	82.5	Mp 52° 138—140 (2)	—	—
$\text{C}_2\text{H}_5\text{O}_2\text{POCOCH}_3$ (IV)	75.7	80—81 (6)	1.2880	1.4532
$\text{C}_2\text{H}_5\text{O}_2\text{POCOCH}_3$ (V)	86.5	Mp 31—32 90—91 (2)	—	—
$(1\text{noC}_2\text{H}_5\text{O})_2\text{POCOCH}_3$ (VI)	64	91—93 (0.5)	—	1.4647
$[(\text{C}_2\text{H}_5)_2\text{N}]_2\text{POCOCH}_3$ (VII)	51	89—90 (2)	0.9763	1.4585

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ACC NR: AP8022981

phosphites are characterized in Table 1. The yield of the neutral

Table 2  
 $R_1POCOR^* + ROH \rightarrow R_1POR$

Initial acyl phosphite (Table 1)	R	% Yield	Bp, °C (mm)	"n"
I	C <sub>4</sub> H <sub>9</sub>	51 {	90--91 (7) 75--76 (4) *	1.4472 1.4472 *
II	C <sub>6</sub> H <sub>13</sub>	85 {	102--104 (7) 102--103 (7) *	1.4482 1.4482 *
IV	C <sub>4</sub> H <sub>9</sub>	60 {	71--72 (8) 71--72 (8.5) *	1.4465 1.4470 *
V	C <sub>3</sub> H <sub>7</sub>	70 {	94--95 (8) 97 (9) *	1.5025 1.4841 *
V	C <sub>4</sub> H <sub>9</sub>	90.5 {	104 (5) 116 (8) *	1.5053 1.5053 *
VI	C <sub>3</sub> H <sub>7</sub>	62	70--71 (7)	1.4430
VII	(C <sub>4</sub> H <sub>9</sub> O) <sub>3</sub> P	70	125--126 (12) 120 (10) *	1.4325 1.4321 *

\* Literature data.

phosphites obtained by the alcoholysis of acyl phosphites is given in Table 2. Orig. art. has: 2 tables. [WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 17Apr67/ ORIG REF: 012/ OTH REF: 003  
 4/4

Card

ACC NR: AP8023368

SOURCE CODE: UR/0390/68/031/003/0316/0319

AUTHOR: Gerchikov, L. N.; Lizgunova, M. V.

ORG: Laboratory of Pharmacology /Head—Corresponding Member AMN SSSR, Prof. M. D. Mashkovskiy/ and Laboratory of Heterocyclic Compounds /Head—Prof. O. Yu. Magidson/, All-Union Scientific Research Chemical and Pharmaceutical Institute (VNIKhFI) im. S. Ordzhonikidze, Moscow (Laboratoriya farmakologii i laboratoriya geterotsiklicheskih soyedineniy Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta)

TITLE: Adrenolytic activity of pseudotropine ester of  $\delta$ -(p-acetoxy-phenyl)- $\alpha$ -phenylpropionic acid

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 3, 1968, 316-319

TOPIC TAGS: adrenolytic drug, vasodepressor, tropine derivative

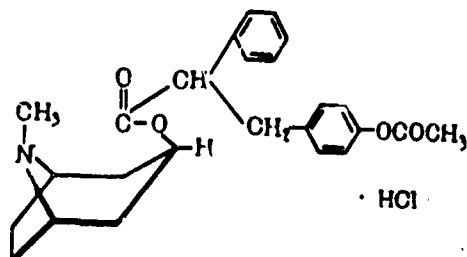
ABSTRACT: The adrenolytic activity of the hydrochloride of the title ester (I):

Card

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UDC: 615.717

ACC NR: AP8023368



was studied by determining the effect of I on the pressor action of adrenalin (20  $\mu\text{g/kg}$ ) and noradrenalin (20  $\mu\text{g/kg}$ ) and on the contraction of the third eyelid in urethane narcotized cats. The effect of I on the decrease in the size of spleen caused by adrenalin was also measured. The vasodilatation of blood vessel by I and its effect on the vasoconstriction action of adrenalin was studied on nonnarcotized rabbits. The vasodilatory effect of I and its antagonism with adrenalin was studied on isolated rabbit ears. Hydrochloride of tropine ester with 8-(p-acetoxyphe-nyl)- $\alpha$ -phenylpropionic acid (II) was used as the standard. Measurements of the blood pressure in cats showed that I has a strong and prolonged hypotensive action with  $\text{LD}_{50}$  10—15 mg/kg. Compound I has a marked adrenolytic activity. The pressor effect of adrenalin decreased by 30—35% within the first 5 min after the introduction of I in a dose of 0.01 mg/kg. The introduction of I in a dose of 3 mg/kg

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ACC NR: AP8023368

decreases the pressor action of noradrenalin by 35—40 %. Experiments with isolated rabbit ears showed that the introduction of I in a dose of 2 mg/kg raises the ear temperature by 10—12°C within the first 5—7 min. Compound I showed a marked  $\alpha$ -adrenoblocking activity but has no  $\beta$ -adrenoblocking activity. Compound I was found to be less active as adrenolytic than compound II.  $\text{LD}_{50}$  of I is about the same (65.5 mg/kg) as that of II (68.5 mg/kg). The adrenolytic activity of the pseudotropine ester (I) was lower than that of tropine ester of the same acid. This is attributed to the position of OH groups in the molecules of the two isomers.

[WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 28Apr67/ ORIG REF: 007/ OTH REF: 002

Card 3/3

ACC NR:

AP8025612

SOURCE CODE: UR/0409/68/000/003/0431/0432

AUTHOR: Gurina, S. L.; Batulina, R. Kh.; Alekseyeva, L. V.; Pushkareva, Z. V.

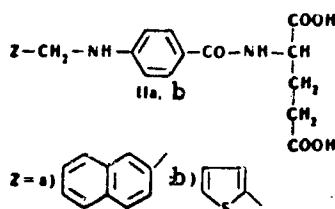
ORG: Urals Polytechnic Institute im. S. M. Kirov, Sverdlovsk (U. skiy politekhnicheskiy institut)

TITLE: Synthesis of [N-4-(2-naphthyl)]- and [N-4-(2-thienyl)methyl-aminobenzoyl]-d,l-glutamic acid

SOURCE: Khimiya geterotsiklicheskich soyedineniy, no. 3, 1968, 431-432

TOPIC TAGS: dicarboxylic acid, amino acid, aromatic carboxylic acid, glutamic acid, heterosubstituted carboxylic acid

ABSTRACT: In a search for biologically active compounds, studies were made of the synthesis of compounds IIa (mp 93—97°C) and IIb (mp 70—95°C):



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UDC: 547.651'732'547.466

ACC NR:

AP8025612

Diethyl p-aminobenzoyl-d,l-glutamate (III) on boiling with 2-bromomethyl-naphthalene in alcohol in the presence of  $NaHCO_3$  and a small amount of NaI gave a reaction product which was hydrolyzed with NaOH to form (48.7%) compound IIa. On boiling with 2-chloromethylthiophene in benzene solution compound III gave a product which after hydrolysis in NaOH gave (51.2%) compound IIb. [WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 12Jul66/ ORIG REF: 003/ OTH REF: 005

Card

2/2

ACC NR: AP8022989

SOURCE CODE: UR/0079/68/038/006/1334/1340

AUTHOR: Ivanova, Zh. M.; Mikhaylik, S. K.; Derkach, G. I.

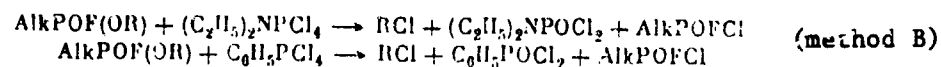
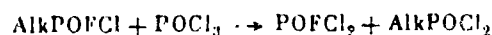
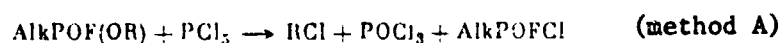
ORG: none

TITLE: Alkylphosphonic chloride fluorides

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1334-1340

TOPIC TAGS: phosphonic acid, chlorinated organic compound, fluorinated organic compound

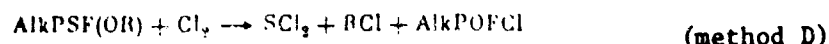
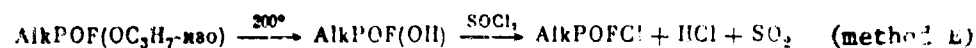
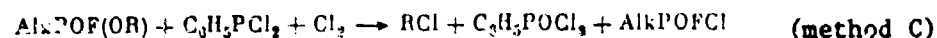
ABSTRACT: A series of alkylphosphonic chloride fluorides was synthesized by various methods involving the following reactions:



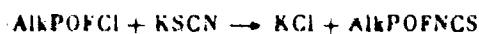
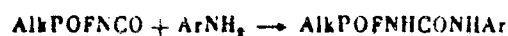
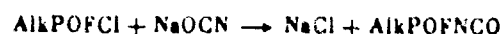
Card 1/7

UDC: 546.185

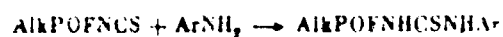
ACC NR: AP8022989



The alkylphosphonic chloride fluorides were boiled with NaOCN, ArNH<sub>2</sub>, or KSCN to form the corresponding derivatives:



The latter compounds were treated with arylamines to form the corresponding amides:



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ACC NR: AP8022989

Arylamides of alkylfluorophosphonic acids were obtained by the reaction:

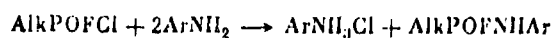


Table 1

RPOFCl

Compd	R	Method of preparation	% Yield	Bp, °C (mm)	$d_4^{20}$	$n_D^{20}$
1	CH <sub>3</sub>	B	48	125—127°		
		C	58			
		D	72			
2	ClCH <sub>2</sub>	D	83	64 (22)	1.6015	1.4360
3	Cl <sub>2</sub> CH	D	84	67—68 (20)	1.6875	1.4558
4	C <sub>2</sub> H <sub>5</sub>	C	77	47—48 (25)	1.2968	1.4030
5	ClCH <sub>2</sub> CH <sub>2</sub>	D	81	85—87 (20)	1.5178	1.4490
6	iso-C <sub>3</sub> H <sub>7</sub>	A	55	36—37 (8)	1.2250	1.4100
		E	80			
			68			

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ACC NR: AP8022989

Table 2

RPOFX

Compd	R	X	% Yield	Bp, °C (mm)	$d_4^{20}$	$n_D^{20}$
1	CH <sub>3</sub>	NCS	10	40—43° (0.05)	1.3647	1.5037
2	C <sub>2</sub> H <sub>5</sub>	NCO	67	66—67 (20)	1.2830	1.4125
3	ClCH <sub>2</sub> CH <sub>2</sub>	NCO	73	80—81 (7)	1.4919	1.4550
4	isoc <sub>3</sub> H <sub>7</sub>	NCO	51	56—57 (8)	1.2281	1.4152

Table 3

RP(O)FNHC(X)NHC<sub>6</sub>H<sub>4</sub>R'

Compd	R	X	R'	% Yield	Mp, °C
1	CH <sub>3</sub>	S	H	68	105 107
2	CH <sub>3</sub>	S	p Cl	74	106 108
3	C <sub>2</sub> H <sub>5</sub>	O	H	84	127 128
4	C <sub>2</sub> H <sub>5</sub>	O	p Cl	79	149 150

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ACC NR:

AP8022989

Table 3. (Cont.)

5	$\text{ClCH}_2\text{CH}_2$	O	H	76	123-125
6	$\text{ClCH}_2\text{CH}_2$	O	p-Cl	93	156-157
7	$\text{iso-C}_6\text{H}_4$	S	p-Cl	56	119-120
8	$\text{iso-C}_6\text{H}_4$	O	H	90	140-141
9	$\text{iso-C}_6\text{H}_4$	O	p-Cl	80	163

Table 4

RP(O)FNHC<sub>6</sub>H<sub>4</sub>R'

Compd	R	R'	% Yield	Mp, °C
1	$\text{CH}_3$	p- $\text{CH}_3$	79	81-83°
2	$\text{CH}_3$	p-Cl	62	128-131
3	$\text{C}_6\text{H}_5$	p-Cl	51	67-73
4	$\text{ClCH}_2$	p-Cl	49	122-124
5	$\text{ClCH}_2$	p-Cl	52	167-171
6	$\text{ClCH}_2\text{CH}_2$	p-Cl	71	84-88
7	$\text{iso-C}_6\text{H}_4$	H	65	83-84.5

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ACC NR:

AP8022989

Table 5

RP(X)F(OR')

Compd	R	X	R'	% Yield	Bp, °C (mm)	$d_4^{20}$	$n_D^{20}$
1	$\text{CH}_3$	S	$\text{CH}_3$	41	28-29° (15)	1.2049	1.4397
2	$\text{CH}_3$	S	$\text{C}_6\text{H}_5$	57	38-39 (15)	1.1514	1.4380
3	$\text{CH}_3$	S	$\text{iso-C}_6\text{H}_4$	60	43-45 (14)	1.0913	1.4358
4	$\text{CH}_2\text{Cl}$	S	$\text{C}_6\text{H}_5$	31	72-74 (20)	1.2955	1.4698
5	$\text{CHCl}_2$	O	$\text{CH}_3$	64	72-73 (10)	1.5471	1.4359
6	$\text{CHCl}_2$	O	$\text{C}_6\text{H}_5$	77	88-89 (10)	1.4290	1.4330
7	$\text{CHCl}_2$	S	$\text{C}_6\text{H}_5$	33	53-54 (5)	1.4023	1.4822
8	$\text{ClCH}_2\text{CH}_2$	O	$\text{C}_6\text{H}_5$	49	46-48 (0.3)	1.2656	1.4168
9	$\text{ClCH}_2\text{CH}_2$	S	$\text{C}_6\text{H}_5$	54	55-57 (5)	1.2525	1.4710
10	$\text{ClCH}_2\text{CH}_2$	O	$\text{CH}_2\text{CH}_2\text{Cl}$	37	86-88 (0.08)	1.4443	1.4560
11	$\text{iso-C}_6\text{H}_4$	C	$\text{C}_6\text{H}_5$	78	48-49 (8)	1.0586	1.3942

Table 6

RPXF<sub>2</sub>

Compd	R	X	% Yield	Bp, °C (mm)	$d_4^{20}$	$n_D^{20}$
1	$\text{CHCl}_2$	O	90	126-128°	1.6574	1.3987

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ACC NR:

AP8022989

Table 6. (Cont.)

2	CHCl <sub>3</sub>	S	80	108--109	1.5782	1.4650
3	CICH <sub>2</sub> CH <sub>3</sub>	O	36	124--128	1.4138	1.3776
4	CICH <sub>2</sub> CH <sub>3</sub>	S	82	52--54 (50)	1.4343	1.4565
5	isoC <sub>3</sub> H <sub>7</sub> (cp. [19])	O	91	127--130	—	—
				114--115		

The new compounds are characterized in Tables 1, 2, 3, 4, 5, and 6. Orig. art. has: 6 tables. [WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 07Jul67/ ORIG REF: 009/ OTH REF: 004

Card

7/7

ACC NR:

AP8022974

SOURCE CODE: UR/0079/68/038/006/1262/1267

AUTHOR: Kharrasova, F. M.; Kamay, G.; Matveyeva, G. I.

ORG: Kazan' Institute of Chemical Technology im. S. M. Kirov (Kazanskiy khimiko-tehnologicheskii institut)

TITLE: Refraction of phosphorus atom in esters of arylphosphonous acids

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1262-1267

TOPIC TAGS: ester, phosphorus compound, phosphonate ester

ABSTRACT: Molecular refraction (MR<sub>D</sub>) and phosphorus atom refraction (AR<sub>P</sub>) in esters of arylphosphonic acids were measured to study the conjugation between the π-electron system of the aryl and the free electron pair at phosphorus atom in the phosphoryl group. The results are given in the table. The average AR<sub>P</sub> value for the esters of phenylphosphonic acid is 4.89; for esters of p-tolyl-, p-bromophenyl-, and p-chlorophenylphosphonic acid it is 5.39. The AR<sub>P</sub> increment with the transition from

Card

1/3

UDC: 546.181.1:543.862.34

ACC NR:

AP8022974

Table 1. MR<sub>D</sub> and AR<sub>P</sub> of esters and chlorides of arylphosphonic acids

Compd.	Formula	MR <sub>P</sub>		AR <sub>P</sub>
		Found	Calcd*	
I	C <sub>6</sub> H <sub>5</sub> P(O)Cl <sub>2</sub>	45.03	44.94	4.94
II	C <sub>6</sub> H <sub>5</sub> P(O)(OCH <sub>3</sub> ) <sub>2</sub>	46.89	46.99	4.55
III	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	56.30	56.23	4.92
		56.20	56.23	4.82 [23]
IV	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>3</sub> H <sub>7</sub> ) <sub>2</sub>	64.46	64.53	4.78
		64.49	64.53	4.81 [24]
V	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>4</sub> H <sub>9</sub> iso) <sub>2</sub>	65.64	65.46	5.03
VI	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>4</sub> H <sub>9</sub> ) <sub>2</sub>	65.48	65.46	4.87
VII	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>5</sub> H <sub>11</sub> ) <sub>2</sub>	74.78	74.70	4.93
VIII	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>6</sub> H <sub>13</sub> ) <sub>2</sub>	84.10	83.93	5.02
IX	C <sub>6</sub> H <sub>5</sub> P(O)(OC <sub>8</sub> H <sub>17</sub> ) <sub>2</sub>	111.60	111.64	4.81 [21]
X	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)Cl <sub>2</sub>	50.20	50.06	5.49
XI	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)(OCH <sub>3</sub> ) <sub>2</sub>	51.76	52.11	5.00
XII	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	61.28	61.34	5.29
XIII	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>3</sub> H <sub>7</sub> iso) <sub>2</sub>	70.57	70.56	5.34
XIV	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>3</sub> H <sub>7</sub> ) <sub>2</sub>	70.47	70.58	5.24
XV	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>4</sub> H <sub>9</sub> ) <sub>2</sub>	79.80	79.82	5.33
XVI	p-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>4</sub> H <sub>9</sub> iso) <sub>2</sub>	89.15	89.05	5.45
XVII	p-BrC <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	64.63	64.49	5.49
XVIII	p-ClC <sub>6</sub> H <sub>4</sub> P(O)(OCH <sub>3</sub> ) <sub>2</sub>	52.05	52.36	5.04
XIX	p-ClC <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	61.69	61.59	5.45
XX	p-ClC <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>3</sub> H <sub>7</sub> ) <sub>2</sub>	70.86	70.83	5.38
XXI	p-ClC <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>4</sub> H <sub>9</sub> ) <sub>2</sub>	80.09	80.07	5.37
XXII	p-ClC <sub>6</sub> H <sub>4</sub> P(O)(OC <sub>4</sub> H <sub>9</sub> iso) <sub>2</sub>	89.39	89.30	5.44

\*MR<sub>D</sub> calculated using AR<sub>P</sub> = 4.85 for phenylphosphonic and 5.35 for p-tolyl- and p-halophenylphosphonic derivatives

Card

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ACC NR:

AP8022974

alkoxy to phenoxy esters was 1.10; from alkoxy to tolyloxy and halogenated phenoxy esters the increment was 1.60. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 25Apr67/ ORIG REF: 015/ OTH REF: 015

Card

3/3

ACC NR:

AP8022673

SOURCE CODE: UR/0062/68/000/006/1375/1378

AUTHOR: Khayrulin, V. K.; Kondrat'yeva, R. M.; Pudovik, A. N.

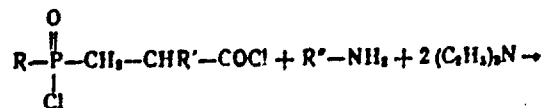
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: New five-membered cyclic compounds containing nitrogen and phosphorus

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1968, 1375-1378

TOPIC TAGS: cyclic group, phospholane derivative, phosphorus compound

ABSTRACT: The title compounds were obtained according to the reaction:



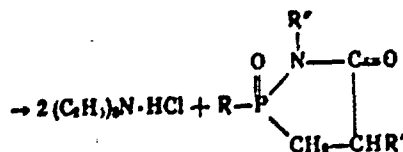
Card

1/3

UDC: 542.91+547.7+546.17+546.18

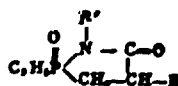
ACC NR:

AP8022673



which takes place at 80°C in an inert solvent in the presence of triethylamine. The new compounds, azaphospholane derivatives, are characterized in the table. The

Table 1.



	R	R'	% Yield	Bp, °C (mm)	$n_D^{20}$	$n_D^{20}$
I	H	C <sub>6</sub> H <sub>5</sub>	83.7	165(0.01)	1.1261	1.4915
II	H	C <sub>6</sub> H <sub>5</sub>	75.5	137-140(0.009)	1.1028	1.4920
III	H	C <sub>6</sub> H <sub>5</sub>	66.5	169-172(0.006)	1.2310	1.5650
IV	H	<i>o</i> -CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	64.2	170(0.003)	—	1.5515
V	H	<i>m</i> -CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	87.3	165(0.001)	—	1.5525
VI	H	<i>p</i> -CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	72.0	182(0.006)	—	1.5568
VII	H	<i>m</i> -NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub>	90.0	Mp 102°	—	—
VIII	H	<i>o</i> -NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> )- <i>p</i>	54.7	Mp 156°	—	—
IX	H	<i>n</i> -Cl <sub>2</sub> O-C <sub>6</sub> H <sub>4</sub>	51.5	218(0.015)	—	1.5610
X	H	$\alpha$ -Naphthyl	80.3	201(0.001)	—	—
XI	CH <sub>3</sub>	C <sub>6</sub> H <sub>5</sub>	57.9	134(0.004)	1.0691	1.4833

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ACC NR:

AP8022673

Table 1. (Cont.)

XII	CH <sub>3</sub>	C <sub>6</sub> H <sub>5</sub>	82,7	150(0,003)	—	1,5435
XIII	CH <sub>3</sub>	<i>o</i> -CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	73,9	169(0,006)	—	1,5295
XIV	CH <sub>3</sub>	<i>m</i> -CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	86,1	178(0,006)	—	1,5320
XV	CH <sub>3</sub>	<i>n</i> -CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	85,5	171(0,006)	—	1,5315
XVI	CH <sub>3</sub>	<i>p</i> -CH <sub>3</sub> O-C <sub>6</sub> H <sub>4</sub>	64,8	154(0,001)	—	1,5472
XVII	CH <sub>3</sub>	$\alpha$ -Naphthyl	68,8	205(0,006)	—	—

structure of these compounds was established by IR spectra. Orig. art. has: 1 figure. [WA-50; CBF No. 35][PS]

SUB CODE: 07/ SUBM DATE: 03Nov67/ ORIG REF: 002/ OTH REF: 003

Card

3/3

ACC NR:

AP8024775

SOURCE CODE: UR/0240/68/000/007/0064/0066

AUTHOR: Khokhol'kova, G. A. (Candidate of biological sciences)

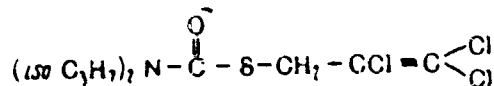
ORG: Scientific Research Institute of Industrial Hygiene and Occupational Diseases, Kiev (Nauchno-issledovatel'skiy institut gigiyeny truda i profzabolevaniy)

TITLE: Determination of "Diptal" in biological media by thin-layer chromatography

SOURCE: Gigiyena i sanitariya, no. 7, 1968, 64-66

TOPIC TAGS: carbamic acid, herbicide, carbamic acid derivative, herbicide detection

ABSTRACT: The herbicide "Diptal":



in blood and in internal organs (liver, lungs, etc.) may be detected and determined quantitatively by thin-layer chromatography on Al<sub>2</sub>O<sub>3</sub> using a solution of AgNO<sub>3</sub> in acetone as the developer. The sorbent is prepared

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UDC: 615.778.4-031/.33:543.544

ACC NR: AP8024775

by mixing 50 g  $\text{AgNO}_3$  and 15 g  $\text{CaSO}_4$  in water. The mass is placed onto a glass plate and dried. The developer is prepared by dissolving 0.85 g of  $\text{AgNO}_3$  in 5 ml of water, adding 2.5 ml of ammonia solution (s.g. 0.9) and adding acetone to 100 ml. A sample (0.2 g or 0.4—0.5 ml of blood) or minced internal organ (of mice in the experiments) is placed into a glass tube and treated with 5 ml of ether to extract the insecticide. After filtering, washing, and concentrating to 0.2—0.3 ml, the extract is placed onto the sorbent, treated with a solvent (4:1 hexane-chloroform mixture), dried at room temperature and developed by adding the developer and irradiating for 20 min with UV light. The appearance of black spots with specific  $R_f$  indicates the presence of "Diptal". The sensitivity is 0.001 mg/sample. The experimental data are given in Tables 1 and 2.

Table 1. Values of  $R_f$  with the use of pure "Diptal"

Amount of "Diptal" token (m)	$R_f$
1	0,56
2	0,55
5	0,52
7	0,57
9	0,56
10	0,65
Average	0,56

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ACC NR: AP8024775

Table 2. Values of  $R_f$  of "Diptal" added to samples in vitro

Biological Media					
Blood	Liver	Kidney	Brains	Heart	Lungs
0,51	0,47	0,52	0,51	0,63	0,51
0,63	0,56	0,55	0,51	0,56	0,52
0,58	0,54	0,59	0,62	0,45	0,50
0,51	0,50	0,63	0,47	0,45	0,45
0,48	0,52	—	—	0,45	0,45
0,54	0,51	0,57	0,52	0,50	0,49

Boundaries  $R_f$  0,5—0,6.

The size and intensity of the black spots depend on the amount of "Diptal" present in the sample. For the quantitative determination the black spots are compared with those of known amounts of pure "Diptal".

Orig. art. has: 2 tables.

[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 10May67/ ORIG REF: 005/ OTH REF: 001

Card 3/3

ACC NR:

AP8022977

SOURCE CODE: UR/0079/68/038/006/1282/1286

AUTHOR: Kotovich, B. P.; Zemlyanskiy, N. I.; Murav'yev, I. V.;  
Voloshin, M. P.

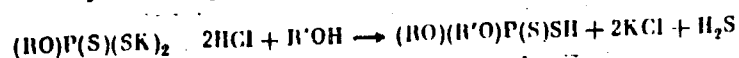
ORG: L'vov State University im. Ivan Franko (L'vovskiy gosudarstvennyy universitet)

TITLE: Investigation of trithiophosphates. I. Some properties of salts of O-alkyltrithiophosphoric acids

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1282-1286

TOPIC TAGS: thiophosphate ester, organic phosphate, organic sulfur compound, phosphate ester

ABSTRACT: The initial potassium salts characterized in Table 1 were obtained by adding KOH to a boiling mixture of  $P_2S_5$ , trimethylamine, and the appropriate alcohol in benzene solution. Alkylation of these salts with alkyl halides at 60–80°C yielded the O,S,S-trialkyl trithiophosphates characterized in Table 2. With strong acids in the presence of excess alcohol, the potassium salts of O-alkyltrithiophosphoric acids reacted to form the O,O-dialkyldithiophosphoric acids characterized in Table 3.



Card

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UDC: 547.185

ACC NR:

AP8022977

Table 1

R	Yield %	Found %		Formula	Calculated	
		P	S		P	S
CH <sub>3</sub>	96	13.16, 13.14	40.82, 40.50	CH <sub>3</sub> K <sub>2</sub> OPS <sub>3</sub>	13.11	41.07
C <sub>2</sub> H <sub>5</sub>	95	11.60, 11.65	36.06, 36.17	C <sub>2</sub> H <sub>5</sub> K <sub>2</sub> OPS <sub>3</sub>	11.72	36.40
iso-C <sub>3</sub> H <sub>7</sub>	91	11.80, 11.83	36.59, 36.70	C <sub>3</sub> H <sub>7</sub> K <sub>2</sub> OPS <sub>3</sub>	11.72	36.40
C <sub>4</sub> H <sub>9</sub>	92	11.00, 11.07	34.45, 34.60	C <sub>4</sub> H <sub>9</sub> K <sub>2</sub> OPS <sub>3</sub>	11.13	34.57
iso-C <sub>4</sub> H <sub>9</sub>	77	10.96, 11.04	34.66, 34.62	C <sub>4</sub> H <sub>9</sub> K <sub>2</sub> OPS <sub>3</sub>	11.13	34.57

Table 2

R	Yield %	Bp, °C (mm)	d <sub>4</sub> <sup>20</sup>	n <sub>D</sub> <sup>20</sup>
CH <sub>3</sub>	60	79–80° (1)	1.2840	1.5944
iso-C <sub>3</sub> H <sub>7</sub>	47	101–103 (1)	1.0885	1.5314
C <sub>4</sub> H <sub>9</sub>	48	119–120 (1)	1.0887	1.5340
iso-C <sub>4</sub> H <sub>9</sub>	45	104–106 (1)	1.0508	1.5270
C <sub>6</sub> H <sub>13</sub>	73	151–153 (1)	—	1.5270

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ACC NR: AP8022977

Table 3

R	R'	% Yield	Bp, °C (mm)	d <sub>4</sub> <sup>20</sup>	n <sub>D</sub> <sup>20</sup>
CH <sub>3</sub>	C <sub>2</sub> H <sub>5</sub>	49	52-54° (2)	1.2451	1.5260
CH <sub>3</sub>	-C <sub>3</sub> H <sub>7</sub>	35	62-64 (1)	1.1541	1.5090
C <sub>2</sub> H <sub>5</sub>	-C <sub>3</sub> H <sub>7</sub>	58	72-74 (2)	1.1581	1.5053
C <sub>4</sub> H <sub>9</sub>	-C <sub>4</sub> H <sub>9</sub>	46	75-77 (1)	1.1056	1.4960

Table 4

R	R'	% Yield	Mp, °C
CH <sub>3</sub>	C <sub>2</sub> H <sub>5</sub>	60	172-173°
CH <sub>3</sub>	C <sub>3</sub> H <sub>7</sub>	39	153-154
CH <sub>3</sub>	CH <sub>2</sub> =CH-CH <sub>3</sub>	36	149-151
CH <sub>3</sub>	C <sub>4</sub> H <sub>9</sub>	67	159-161
C <sub>2</sub> H <sub>5</sub>	C <sub>3</sub> H <sub>7</sub>	63	168-168.5
C <sub>2</sub> H <sub>5</sub>	C <sub>4</sub> H <sub>9</sub>	71	146-147
C <sub>2</sub> H <sub>5</sub>	C <sub>8</sub> H <sub>17</sub>	35	137-139
C <sub>2</sub> H <sub>5</sub>	C <sub>10</sub> H <sub>21</sub>	41	167-168
C <sub>3</sub> H <sub>7</sub>	C <sub>4</sub> H <sub>9</sub>	54	142-142.5

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ACC NR: AP8022977

The reaction proceeds stepwise with the formation of intermediate potassium salts which were isolated and are characterized in Table 4. Orig. art. has: 4 tables. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 10Jul67/ ORIG REF: 005/ OTH REF: 003

Card 4/4

ACC NR: AP8022678

SOURCE CODE: UR/0062/68/000/006/1412/1413

AUTHOR: Kudryavtsev, B. V.; Yarmukhametova, D. Kh.

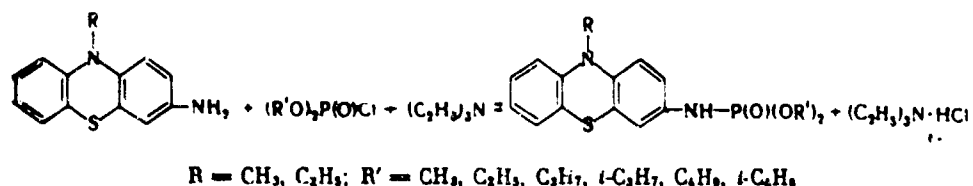
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov,  
Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii  
Akademii nauk SSSR)

TITLE: Synthesis of 3-(dialkylphosphon)amido-10-alkylphenothiazines

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1968,  
1412-1413

TOPIC TAGS: phosphorus compound, nitrogen compound, drug, heterocyclic  
sulfur compound, thiazine derivative

ABSTRACT: In a search for new drugs, a series of the title compounds  
was synthesized according to the reaction:



Card

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UDC: 542.91+661.718.1

ACC NR:

AP8022678

which takes place at 60°C in benzene. The new compounds are character-  
ized in the table. A preliminary study of their biological activity

Table 1

R	R'	Mp, °C	% Yield
CH <sub>3</sub>	CH <sub>3</sub>	176-177	41
	C <sub>6</sub> H <sub>5</sub>	143-144	53
	C <sub>6</sub> H <sub>5</sub>	103-104	46
	t-C <sub>4</sub> H <sub>9</sub>	147-118	57
	C <sub>6</sub> H <sub>5</sub>	75-76	27
	t-C <sub>4</sub> H <sub>9</sub>	106-109	63
C <sub>6</sub> H <sub>5</sub>	CH <sub>3</sub>	154-155	43
C <sub>6</sub> H <sub>5</sub>	C <sub>6</sub> H <sub>5</sub>	155-156	71

Card

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ACC NR: AP8022678

Table 1. (Cont.)

C <sub>5</sub> H <sub>8</sub>	C <sub>5</sub> H <sub>7</sub>	129-130	79
C <sub>5</sub> H <sub>8</sub>	<i>i</i> -C <sub>5</sub> H <sub>7</sub>	139-140	64
C <sub>5</sub> H <sub>8</sub>	C <sub>4</sub> H <sub>8</sub>	81-92	31
C <sub>5</sub> H <sub>8</sub>	<i>i</i> -C <sub>4</sub> H <sub>8</sub>	94-95	45

revealed that they are weak pesticides. Extensive study of the physiological activity of the compounds synthesized is in progress.

[WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 23Oct67/ ORIG REF: 002

Cord 3/3

ACC NR: AP8023923

SOURCE CODE: UR/0442/68/000/007/0633/0635

AUTHOR: Kuznetsov, M. V.; Svyschuk, O. A.; Blakytnyy, A. N.

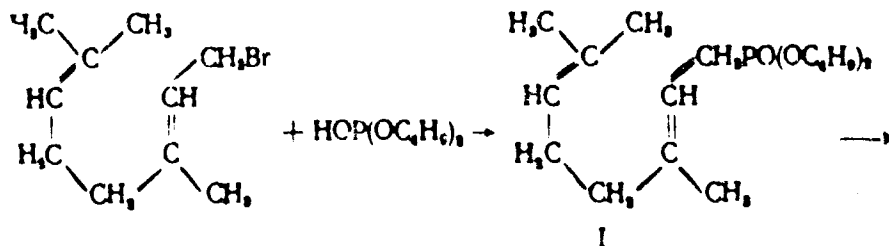
ORG: Institute of Organic Chemistry, AN URSR (Instytut organichnoyi khimiyi AN URSR)

TITLE: Synthesis of some phosphonic acid esters

SOURCE: AN UkrRSR. Dopovidy. Seriya B. Heolohiya, heofizyka, khimiya, no. 7, 1968, 633-635

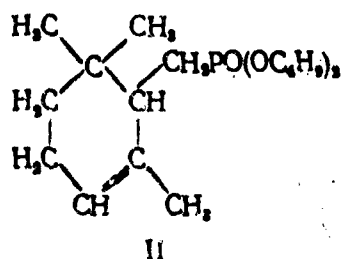
TOPIC TAGS: phosphonic acid, aliphatic ester, phosphonate ester, organic phosphorus compound

ABSTRACT: A series of phosphonate esters:

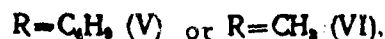
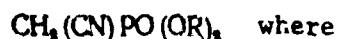
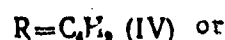


Cord 1/3

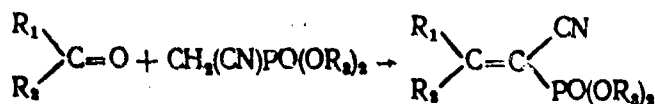
UDC: 547.26'.118



III



was synthesized and their reaction studied. A mixture of Na and dibutyl phosphite in xylene is treated at 25°C with geranyl bromide in cyclohexane to form (90%) ester I (bp 161—164°C/1.5 mm). In nitromethane in the presence of  $\text{H}_2\text{SO}_4$ , ester I underwent cyclization to form (51%) ester II (bp 160—161°C/3 mm). Treatment of dibutyl phosphite with 3-methyl-7-butenyl chloride yielded (94%) ester III (bp 190—195°C/22 mm). At



Card

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Compound	$\text{R}_1, \text{R}_2$	$\text{R}_3$	% yield	Bp, °C/mm	$n_D^{20}$
VII	$(\text{CH}_3)_2$	$\text{C}_6\text{H}_5$	48	223—225°/20 mm	$n_D^{20}$ 1.4755
VIII	$(\text{CH}_3)_2$	$\text{CH}_3$	50	193—195°/12 mm	$n_D^{17}$ 1.4918
IX	$\text{CH}_3, \text{C}_6\text{H}_5$	$\text{CH}_3$	46	168—170°/12 mm	$n_D^{20}$ 1.4655
X	$\text{C}_6\text{H}_5, \text{H}$	$\text{C}_6\text{H}_5$	60	200—203°/20 mm	$n_D^{20}$ 1.4520
XI	$\text{C}_6\text{H}_5, \text{H}$	$\text{C}_6\text{H}_5$	65	183—185°/0.1 mm	$n_D^{20}$ 1.5235

150—190°C, ethyl chloroacetate reacted with an equimolar amount of tributyl phosphite to form (90%) ester IV (bp 168—170°C/10 mm). An attempt to obtain condensation products of esters I—IV with aldehydes and ketones was unsuccessful. Earlier synthesized esters V and VI condense with ketones and aldehydes in the presence of piperidyl acetate or ammonium acetate to form esters VII—IX which are characterized in the table. Presented by Academician of the AN URSR O. V. Kirsanov.

[WA-50; CBE No. 35] [PS]

SJS CODE: 07/ SUBM DATE: 14Dec67/ ORIG REF: 002/ OTH REF: 001

Card

3/3

ACC NR:

AP8023370

SOURCE CODE: UR/0390/68/031/003/0321/0326

AUTHOR: Ladinskaya, M. Yu.

ORG: Division for the Isolation of Physiologically Active Substances /Head—Candidate of medical sciences Yu. I. Vikhlyayev/, Institute of Pharmacology and Chemotherapy, AMN SSSR, Moscow (Otdel po vyvavleniyu fiziologicheskii aktivnykh veshchestv, Instituta farmakologii i khimioterapii AMN SSSR)

TITLE: Chemical structure and antiedema activity of pyrazolone derivatives

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 3, 1968, 321-326

TOPIC TAGS: immunology, immunogenesis

ABSTRACT: The effect of the antipyrine derivatives shown in Tables 1 and 2 on the edema (blisters) produced by subcutaneous injection of 0.1 ml of 6% dextran was determined in rats. Most of the compounds tested were as effective as phenylbutazone or aminopyrine at reducing blisters on the feet of the test rats. Introduction of halogens and methyl groups in meta- and para- positions of the benzyl radical yielded derivatives with reduced antipyrine effect. Lengthening of the carbon chain via the

Card

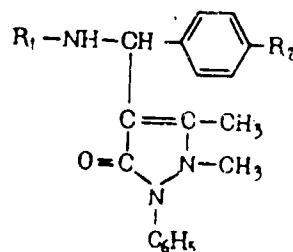
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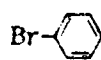

UDC: 615.754.7-015.11-092:616-005.98

ACC NR:

AP8023370

Table 1. Effect of certain pyrazolone, aminopyrine and butadione derivatives on edematous response in rats



Preparation no.	Compound symbol	R <sub>1</sub>	R <sub>2</sub>	Blister shrinkage (in %) $\bar{M} \pm m$				No of animals in the experiment
				Dose in mg/kg				
				25	50	100	200	
1	AN-171		—	—	43.8 ± 6.7	46.9 ± 7.4	69 ± 7.3	30
2	AN 176		—	—	24.2 ± 8 <sup>1</sup>	—	—	10
3	AN-208		—	—	Increase of blister by 10.5%	—	—	5

Card

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4	AN-180		—	—	5.3±8.7 <sup>1</sup>	—	—	9
5	AN-178		—	—	Increase of blister by 9.4%	—	—	9
6	AN-210		CH <sub>3</sub>	—	34.7±7.25	—	—	8
7	AN-209		Br	—	Increase of blister by 4.7%	—	—	10
8	AN-213		—	—	43.1±9.6	50.6±6.3	42.6±8.66 <sup>1</sup>	27
9	AN-168		—	28.8±6	44±8	56.1±7.3	56±6.46	48
10	AN-172		CH <sub>3</sub>	—	42.2±8.9	51±6.6	—	19
11	AN-185		Br	—	36.6±8	—	—	9
12	AN-173		NO <sub>2</sub>	—	29.7±12	—	—	9
13	AN-175		CH <sub>3</sub> O	—	22.2±6.4 <sup>2</sup>	—	—	8

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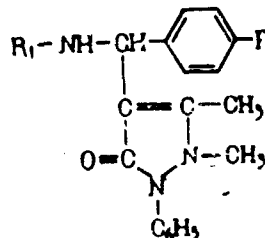
3/5

14	Amidopyrine			25.6±7.2	46±8.7	52±6.8	65.5±6.97	39
15	Butadione			39±7.5	49±6.3	40.7±6.8	—	42

<sup>1</sup> Difference in statistical significance at P = 0.05 compared with butadione.

<sup>2</sup> Difference in statistical significance at P = 0.05 compared with butadione and amidopyrine.

Table 2. Effect of pyrazolone fluoroderivatives on polyglycine (dextran) blisters in rats



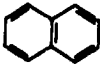



Preparation no.	Preparation symbol	R <sub>1</sub>	Amount of blister decrease (in %) M ± m	No. of rats in the experiment
1	I-160		49±6.21	9

Card

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ACC NR: AP8023370

Table 2. (Cont.)

2	I-150		42,8±9,1	10
3	I-152	-COOC <sub>2</sub> H <sub>5</sub> 	38,8±7,9	10
4	I-153	-COOC <sub>4</sub> H <sub>9</sub> 	37,2±8,5	9
5	I-151	-COOCH <sub>3</sub> 	Increase in blister of 2.7%	8

introduction of carboxyethyl and carboxybutyl groups at the aniline radical next to the side-chain nitrogen yielded more effective compounds. The compounds in Table 1 were ineffective at reducing swelling produced by injection of formalin. Substance AN-168 showed both antihistamine and antiserotonin properties in 50 mg/kg doses. Hydroxyl groups included at the para- position of the phenyl radicals (R<sub>1</sub> and R<sub>2</sub>) did not change the biological properties of the compounds appreciably. Compounds such as AN-168 act by inhibiting the release of tissue histamine and serotonin. Orig. art. has: 2 tables. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 07Mar67/ ORIG REF: 010/ OTH REF: 003

Card 5/5

ACC NR: AP8025148

SOURCE CODE: GE/0027/68/010/002/0155/0156

AUTHOR: Lassmann, G.; Damerau, W.; Lohs, Kh.

ORG: Institute of Biophysics, DAdW in Berlin, Berlin-Buch (Institut fuer Biophysik der DAdW)

TITLE: Radicals formation in organophosphorus compounds

SOURCE: Akademie der wissenschaften zu Berlin. Monatsberichte, no. 2, 1968, 155-156

TOPIC TAGS: phosphoric acid, phosphonic acid, phosphonate ester, phosphate ester, insecticide, free radical

ABSTRACT: Esters of phosphoric and phosphonic acids are of great importance as pesticides, particularly as insecticides. Quantitative data on their reaction mechanism and radicals formation and decomposition during irradiation are needed to determine the stability and applicability of organophosphorus compounds. The yield of free radicals in x-ray irradiated trichlorophon (O,O-dimethyl 2,2,2-trichloro-1-hydroxyphosphonate) type compounds was studied by ESR spectra. At room temperature the yield of radicals varied between 0.2 and 1.7 radical/100 ev. Strong radiation resistance was established only in phosphonates containing

Card 1/2

ACC NR: AP8025148

aromatic substituents or double bonds. The presence of oxygen has no effect on the radical structure and radical concentration. The radical concentration in trichlorophon is proportional to the radiation dose up to about 2 Mrad, then increased with irradiation dose to a maximum of  $8 \times 10^{18}$  radical/g. A more detailed account of this study is in print. [WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 28Dec67

Cord 2/2

ACC NR: AP8023369

SOURCE CODE: UR/0390/68/031/003/0319/0321

AUTHOR: Medvedev, B. A.

ORG: Laboratory of Pharmacology /Head--Corresponding member AMN SSSR Prof. M. D. Mashkovskiy/ All-Union Scientific Research Chemical and Pharmaceutical Institute (VNIKhFI) im. S. Ordzhonikidze, Moscow (Laboratoriya farmakologii Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta)

TITLE: Ganglioblocking and curareform properties of 1-(omega-dialkyl aminoalkyl)-3-benzyl-quinuclidine halide methylates

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 3, 1968, 319-321

TOPIC TAGS: bisquaternary ammonium compound, CNS drug effect, curare drug effect, curareform compound, gangliolytic compound

ABSTRACT: This article appears in Biological Factors

Cord 1/1

UDC: 615.773.3-017.87+615.778.3-017.853]

ACC NR: AP8020812

SOURCE CODE: UR/0450/68/002/005/0008/0011

AUTHOR: Mel'nikov, N. N.; Khaskin, B. A.; Taturina, N. N.;  
Pershin, G. N.; Milovanova, S. N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant  
Protection (VNIKhSZR), Moscow (Vsesoyuznyy nauchno-issledovatel'skiy  
institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Quaternary phosphonium 0,0-dialkyldithiophosphates and their  
germistatic and germicidal activity

SOURCE: Khimiko-farmatsevticheskiy zhurnal, v. 2, no. 5, 1968, 8-11

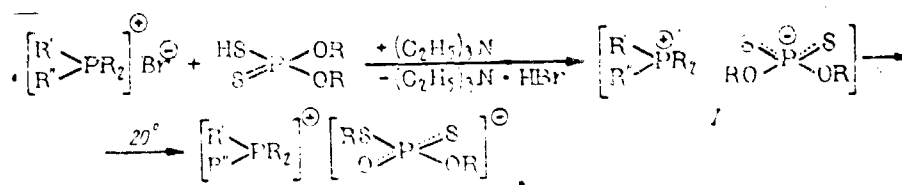
TOPIC TAGS: germicide, bactericide, bacteriostasis, quaternary  
phosphonium compound, pathogenic fungus

ABSTRACT: The compounds shown in Tables 1 and 2 had a low predicted  
anticholinesterase activity and displayed high bacteriostic ability in low  
concentrations. They also displayed significant fungistatic activity.

Card 1/4

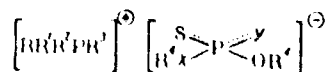
UDC: 615-777.15.015.2

ACC NR: AP8020812



where R is a low alkyl; R' is a C<sub>12</sub>—C<sub>18</sub> alkyl; and R'' is an alkyl or  
aryl group. All the new compounds not only have high antibiotic activity

Table 1



Compound no.							Yield, %	n <sub>D</sub> <sup>20</sup>	n <sub>D</sub> <sup>25</sup>	Dilutions (1: no. of thousands)									
	R	R'	R''	R	R'	R''				1:100	1:200	1:400	1:800	1:1600	1:3200	1:6400	1:12800	1:25600	1:51200
1	CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	C <sub>12</sub> H <sub>25</sub>	CH <sub>3</sub>	S	91	1.5117	1.0901	1:125	1:60	1:30	1:150	1:300	1:600	1:1200	1:2400	1:4800	1:9600
2	CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	C <sub>14</sub> H <sub>29</sub>	CH <sub>3</sub>	S	96	1.5098	1.1207	1:240	1:120	1:60	1:300	1:600	1:1200	1:2400	1:4800	1:9600	1:19200
3	CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	C <sub>16</sub> H <sub>33</sub>	CH <sub>3</sub>	S	97	1.5080	1.1114	1:240	1:120	1:60	1:300	1:600	1:1200	1:2400	1:4800	1:9600	1:19200
4	CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	C <sub>18</sub> H <sub>37</sub>	CH <sub>3</sub>	S	99	1.5172	1.0920	1:240	1:120	1:60	1:300	1:600	1:1200	1:2400	1:4800	1:9600	1:19200
5	CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	C <sub>12</sub> H <sub>25</sub>	CH <sub>3</sub>	S	94	1.5066	1.0901	1:240	1:120	1:60	1:300	1:600	1:1200	1:2400	1:4800	1:9600	1:19200
6	CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	C <sub>14</sub> H <sub>29</sub>	CH <sub>3</sub>	S	94	—	—	1:240	1:120	1:60	1:300	1:600	1:1200	1:2400	1:4800	1:9600	1:19200

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ACC NR:

AP8020812

Table 1. (Cont.)

7	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	S	O	70	1,5011	1,0701	1:125	1:60	1:100	1:100	1:50	1:60	1:500	1:250	1:30
8	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	S	O	80	1,5009	1,0922	1:125	1:60	1:25	1:100	1:100	1:25	1:60	1:120	1:30
9	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	S	O	85	1,5008	1,0860	1:250	1:120	1:60	1:120	1:60	1:60	1:500	1:250	1:30
10**	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	S	O	88	—	—	1:250	1:120	1:30	1:120	1:120	1:60	1:30	1:8	1:30
11	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	96	1,5159	1,1111	1:125	1:60	1:25	1:100	1:25	1:60	1:125	1:30	1:30
12	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	93	1,5098	1,1192	1:250	1:120	1:30	1:100	1:50	1:120	1:500	1:60	1:125
13	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	83	1,5878	1,0901	1:300	1:250	1:60	1:200	1:100	1:250	1:8000	1:250	1:250
14	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	22	1,6473	1,1084	1:300	1:250	1:60	1:200	1:25	1:120	1:2000	1:120	1:170
15	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	86	1,5388	1,1001	1:500	1:500	1:6000	1:6000	1:200	1:600	1:3000	1:250	1:250
16***	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	93	—	—	1:250	1:120	1:250	1:120	1:1000	1:250	1:250	1:500	1:30
17	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	97	1,5100	1,1024	1:60	1:60	1:250	1:120	1:120	1:170	1:60	1:130	1:60
18	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	89	1,5816	1,1032	1:1000	1:60	1:50	1:50	1:25	1:30	1:60	1:30	1:30
19****	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	91	—	—	1:125	1:60	1:120	1:60	1:60	1:30	1:250	1:250	1:30
20	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	C <sub>12</sub> H <sub>18</sub>	O	S	87	1,5301	1,1094	1:125	1:60	1:60	1:60	1:60	1:60	1:60	1:30	1:16

\* mp 37—38°; \*\* mp 54—55.5°; \*\*\* mp 34—36°; \*\*\*\* mp 50—51.5°

Table 2

Con- pound no.	Staphylococcus aureus	B. coli communis	B. Pyocy- aneus	Proteus Vulgaris	B. Anthraci- des	Candida albicans	Aspergillus niger
1	1:30 000	1:16 000	1:2 000	1:2 000	1:60 000	1:60 000	1:4 000
2	1:250 000	1:16 000	1:2 000	1:4 000	1:120 000	1:30 000	1:8 000
3	1:250 000	1:30 000	1:2 000	1:4 000	1:250 000	1:60 000	1:8 000
4	1:60 000	1:16 000	1:4 000	1:4 000	1:30 000	1:30 000	1:16 000
5	1:500 000	1:16 000	1:2 000	1:16 000	1:250 000	1:30 000	1:4 000

Card

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ACC NR:

AP8020812

but also a broad action spectrum. They were most effective as anti-staphylococcus agents and as combatants of human and avian tuberculosis. Orig. art. has: 2 tables and 1 figure. [WA-50; 3E No. 35] [LP]

SUB CODE: 06/ SUBM DATE: 02Nov67/ ORIG REF: 005/ OTH REF: 003

Card

4/4

ACC NR:

AP8022993

SOURCE CODE: UR/0079/68/038/006/1370/1372

AUTHOR: Migachev, G. I.; Il'ina, Ye. F.; Stepanov, B. I.

ORG: Moscow Institute of Chemical Technology im. D. I. Mendeleev  
(Moskovskiy khimiko-tehnologicheskiy institut)TITLE: Reaction of 2,4,6-trichloro-1,3,5-triazine with dialkylanilines  
in the presence of aluminum chloride

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1370-1372

TOPIC TAGS: aniline, organic azine compound, triazine derivative

ABSTRACT: At 60—80°C in the presence of  $AlCl_3$  cyanuric chloride reacted  
with dialkylanilines to form 2,4,6-tris(N-alkylphenylamino)-1,3,5-triazinesProducts of the reaction of cyanuric chloride with  
N,N-dialkylanilines in the presence of  $AlCl_3$ 

No.	Alkyl in dialkyl- aniline	Reaction product	% Yield	Mp, °C
I	Dimethyl	2,4,6-tris(N-methylphenyl- amino)-1,3,5-triazine	85	117.5°

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UDC: 547.87+547.554+546.623

ACC NR:

AP8022993

II	Methyl- ethyl	2,4,6-tris(N-ethylphenyl- amino)-1,3,5-triazine	60	105—106
III	Diethyl	2,4-bis(N-ethylphenyl- amino)-1,3,5-triazine	75	124.5
IV	Dipropyl	2,4,6-tris(N-propylphenyl- amino)-1,3,5-triazine	70	104—105
V	Ethylpro- pyl	2,4,6-tris(N-propylphenyl- amino)-1,3,5-triazine	60	101—102

and 2,4-bis(N-ethylphenylamino)-6-(p-diethylaminophenyl)-1,3,5-triazine  
which are characterized in the table. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 10Jul67/ OTH REF: 003

Card

2/2

ACC NR: AP8022985

SOURCE CODE: UR/0079/68/38/006/1321/1324

AUTHOR: Narbut, A. V.; Derkach, G. I.

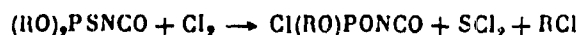
ORG: Institute of Organic Chemistry, Academy of Sciences UkrSSR (Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Derivatives of isocyanatophosphoric acid

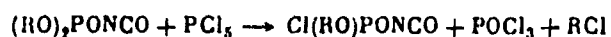
SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1321-1324

TOPIC TAGS: phosphate, phosphate ester, organic isocyanate compound

ABSTRACT: At -20 to -15°C in carbon tetrachloride, alkyl isocyanatophosphates reacted with chlorine to form the ester chlorides:



These chlorides are also formed in the following reaction:

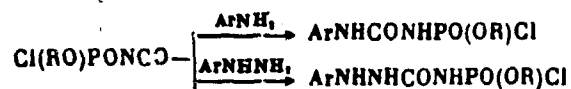


The reaction of the ester chlorides with arylamines and hydrazines proceeds with the formation of the following derivatives:

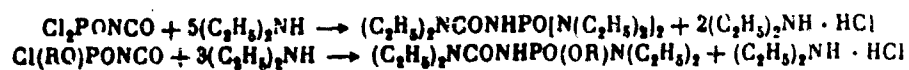
Card 1/4

UDC: 547.26'118

ACC NR: AP8022985



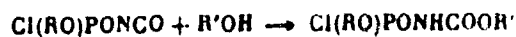
The dichlorides and chlorides of isocyanatophosphoric acid reacted with dialkylamines as follows:



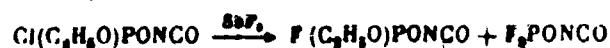
Dialkyl isocyanatophosphates reacted with secondary aliphatic amines to form urea derivatives:



The reaction of alkyl chloroisocyanatophosphates with alcohols at 20°C in ether gave alkyl alkylurethanchlorophosphates:



The fluorination of ethyl chloroisocyanatophosphate gave ethyl fluoroisocyanatophosphate and difluoride of isocyanatophosphoric acid:



Card

2/4

ACC NR: AP8022985

RR'NCONHPOR''R'''

R	R'	R''	R'''	% Yield	Mp, °C
C <sub>2</sub> H <sub>5</sub>	C <sub>2</sub> H <sub>5</sub>	OCH <sub>3</sub>	OCH <sub>3</sub>	81	128—130°
C <sub>2</sub> H <sub>5</sub>	C <sub>2</sub> H <sub>5</sub>	OCH <sub>3</sub>	N(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	75	—
C <sub>2</sub> H <sub>5</sub>	C <sub>2</sub> H <sub>5</sub>	N(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	N(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	90	50—52
C <sub>6</sub> H <sub>5</sub>	H	OCH <sub>3</sub>	Cl	87	94—96
C <sub>6</sub> H <sub>5</sub>	C <sub>6</sub> H <sub>5</sub>	OCH <sub>3</sub>	Cl	85	133—135
p-ClC <sub>6</sub> H <sub>4</sub>	H	OCH <sub>3</sub>	Cl	91	125—126
p-BrC <sub>6</sub> H <sub>4</sub>	H	OCH <sub>3</sub>	Cl	93	115—116
p-NO <sub>2</sub> C <sub>6</sub> H <sub>4</sub>	H	OCH <sub>3</sub>	Cl	95	153—155

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ACC NR: AP8022985

p-NO <sub>2</sub> C <sub>6</sub> H <sub>4</sub>	H	OCH <sub>3</sub>	Cl	95	158—160
C <sub>6</sub> H <sub>5</sub> NH	H	OCH <sub>3</sub>	Cl	87	139—140
C <sub>6</sub> H <sub>5</sub>	H	OC <sub>2</sub> H <sub>5</sub>	Cl	75	—
C <sub>6</sub> H <sub>5</sub> NH	H	OC <sub>2</sub> H <sub>5</sub>	Cl	89	135—137

The new esters are characterized in the table. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 04Jul67/ ORIG REF: 005/ OTH REF: 001

Card 4/4

ACC NR:

AP8022980

SOURCE CODE: UR/0079/68/038/006/1295/1298

AUTHOR: Nifant'yev, E. Ye.; Fursenko, I. V.

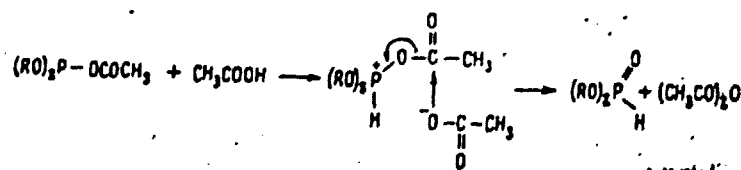
ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Phosphorylation of alcohols with acetyl phosphites

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1295-1298

TOPIC TAGS: phosphorylation, aliphatic alcohol, phosphite ester

ABSTRACT: The reaction of dialkyl acetyl phosphite with alcohols and with acetic acid was studied to determine the effect of acetic acid on the phosphorylation of alcohols. The study revealed that at temperatures below 0°C, dialkyl acetyl phosphites reacted only with alcohols. The reaction of acetic acid with dialkyl acetyl phosphites proceeds only at temperatures above 0°C:



Card

1/2

UDC: 547.26'118

ACC NR:

AP8022980

## Synthesis of neutral phosphites from dialkyl acetyl phosphites

Acyl phosphite	Alcohol	% Yield	Bp, °C (mm)	d <sub>4</sub> <sup>20</sup>	n <sub>D</sub> <sup>20</sup>
$\begin{array}{c} CH_3 \\   \\ CH-O \\   \quad \diagup \quad O \\   \quad \quad \quad    \\ CH_2-O \quad \quad POCCH_3 \\   \quad \quad \quad O \\ (C_4H_9O)_2P-OCOCH_3 \end{array}$	C <sub>4</sub> H <sub>9</sub> OH-1	61.3	90-90.5°(7)	1.0250	1.4472
	C <sub>6</sub> H <sub>13</sub> OH-1	66.4	102-103 (7)	0.9936	1.4482
	C <sub>6</sub> H <sub>13</sub> OH	45.2	132-133 (7)	1.1560	1.5145
	C <sub>8</sub> H <sub>17</sub> OH-2	60.7	129-130 (7)	1.9743	1.4500
(C <sub>4</sub> H <sub>9</sub> O) <sub>2</sub> POCCH <sub>3</sub>	C <sub>4</sub> H <sub>9</sub> OH-1	78.0	112-113 (7)	0.9253	1.4320

The phosphorylation of alcohols at low temperatures may be used as a simple method of the preparation of neutral phosphites. At 0°C in argon, butanol, Na butoxide, and diethylamine reacted with 1,3-butyleneacetyl phosphite to form the phosphites which are characterized in the table.

[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 16Jan67/ ORIG REF: 011/ OTH REF: 001

Card

2/2

ACC NR:

AP8022670

SOURCE CODE: UR/0062/68/000/006/1366/1369

AUTHOR: Nuretdinov, I. A.; Grechkin, N. P.

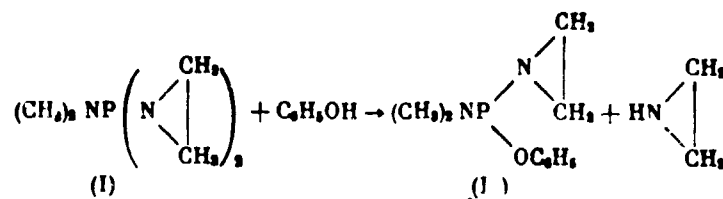
ORG: Institute of Organic and Inorganic Chemistry in A. Ye. Arbuzov,  
Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii  
Akademii nauk SSSR)

TITLE: Phenolysis of ethylenimides of dialkylamidophosphorous acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1962, 1366-  
1369

TOPIC TAGS: organic imine compound, phosphorous acid, phosphorous amide

ABSTRACT: IR spectra of the products formed in the phenolysis of the  
title compounds revealed that at a 1:1 reactant ratio, the phenolysis of I  
proceeds by the following mechanism:



Card

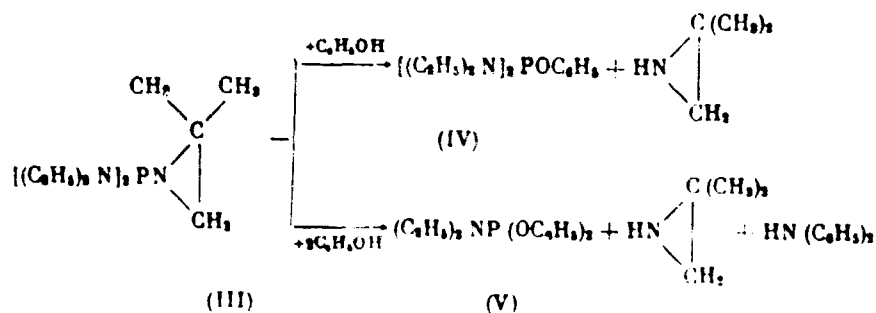
1/3

JDC: 542.91+661.718.1

ACC NR:

AP8022670

The phenolysis of III proceeds by two mechanisms, depending on the  
reactant ratio:



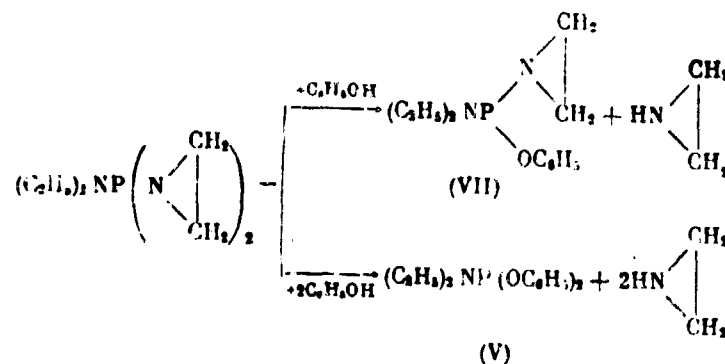
The phenolysis of diethylenimide of diethylamidophosphorous acid proceeds  
with the formation of V or VII, depending on the reactant ratio:

Card

2/3

ACC NR:

AP8022670



The change in the course of reaction with the reactant ratio is attributed to the  $p_\pi-d_\pi$  interaction. Orig. art. has: 2 figures.

[WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 19Oct67/ ORIG REF: 004/ OTH REF: 002

Card

3/3

ACC NR:

AP8022669

SOURCE CODE: UR/0062/68/000/006/1363/1366

AUTHOR: Nuretdinov, I. A.; Grachkin, N. P.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Reaction of 2,2-dimethylethylenimine with ethylenimide of dialkylamidophosphorous acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1968, 1363-1366

TOPIC TAGS: phosphorous acid, organic imine compound, phosphorous amide

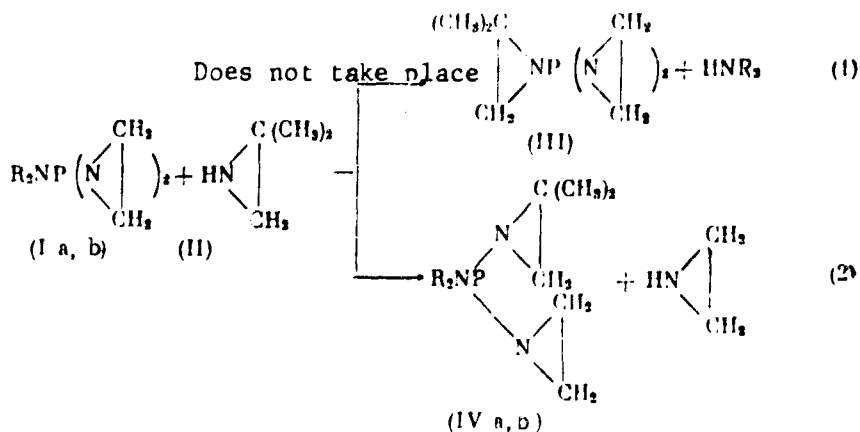
ABSTRACT: At 60--120°C, 2,2-dimethylethylenimine (II) was allowed to react with the diethylenimide of dimethylamidophosphorous acid (Ia) or with the diethylenimide of diethylamidophosphorous acid (Ib) to form compounds IVa (bp 82--83°C/20 mm) and IVb (bp 96--97°C/9 mm) respectively.

Card

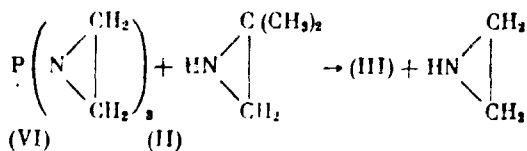
1/3

UDC: 542.91+661.718.1+547.415.3

ACC NR: AP8022669



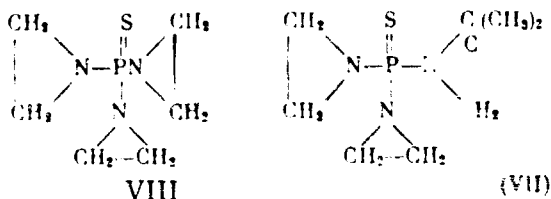
The anticipated formation of compound III in this reaction did not take place. Compound III was obtained according to the reaction:



Card 2/3

ACC NR: AP8022669

At room temperature in benzene solution, IVa and IVb reacted with sulfur to form compounds Va ( $C_8H_{16}N_3PS$ , bp 95–96°C/0.09 mm) and Vb ( $C_{10}H_{12}N_3PS$ , bp 70–72°C/0.04 mm), respectively. Treatment of compound III with sulfur yielded compound VII (bp 95–96°C/0.09 mm), which is the analog of the well-known antitumorigenic drug VIII:



The structure of the new compounds was established by IR spectra. Orig. art. has: 2 figures. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 19Oct67/ ORIG REF: 004/ OTH REF: 003

Card 3/3

ACC NR:

AP8022996

SOURCE CODE: UR/0079/68/038/006/1405/1406

AUTHOR: Pastushkov, V. N.; Arbisman, Ya. S.; Kondrat'yev, Yu. A.;  
Ivin, S. Z.; Vasil'yev, A. S.

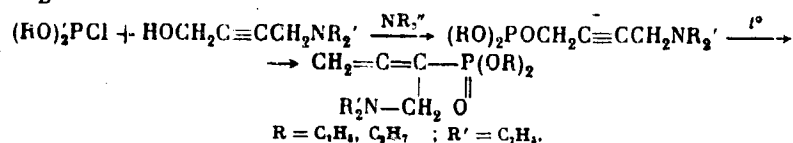
ORG: none

TITLE: 0,0-dialkyl  $\alpha$ -(N,N-dialkylaminomethyl)allenylphosphonates

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1405-1406

TOPIC TAGS: phosphonate ester, acetylene compound, phosphonic acid

ABSTRACT: Thermal isomerization of the products formed in the reaction of dialkyl chlorophosphates with 4-N,N-dialkylamino-2-butyne-1-ols yielded 0,0-dipropyl  $\alpha$ -(N,N-diethylaminomethyl)allenylphosphonate, bp 90-92°C (0.01 mm) and 0,0-diethyl  $\alpha$ -(N,N-diethylaminomethyl)allenylphosphonate,  $d_4^{20}$  1.0402,  $n_D^{20}$  1.4630:



[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 06Jul67

Card

1/1

UDC: 547.341.333.3

ACC NR:

AP8022998

SOURCE CODE: UR/0079/68/038/006/1407/1407

AUTHOR: Pastushkov, V. N.; Kondrat'yev, Yu. A.; Ivin, S. Z.;  
Vdovina, E. S.; Vasil'yev, A. S.

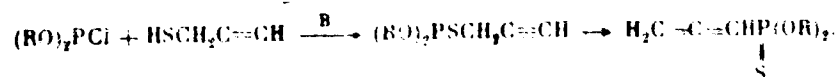
ORG: none

TITLE: Acetylene-allene rearrangement of 0,0-dialkyl S-propargyl phosphites

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1407

TOPIC TAGS: acetylene compound, thiophosphonate ester, phosphorous acid

ABSTRACT: During the preparation of 0,0-dialkyl S-propargyl phosphites from dialkyl chlorophosphites and propargylmercaptan in the presence of an organic base, the reaction product underwent acetylene-allene rearrangement to form 0,0-dialkyl propargylthiophosphonates:



where R is alkyl and B is an organic base

Card

1/2

UDC: 547.341

ACC NR: AP8022998

The rearrangement takes place in a solvent at room temperature. 0,0-diisopropyl allenylthiophosphonate, bp 56°C (0.02 mm) and 0,0-diisobutyl allenylthiophosphonate, bp 105—108°C (2 mm) were obtained by this method. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 19Dec67

Card 2/2

ACC NR: AP8022999

SOURCE CODE: UR/0079/68/038/006/1408/1408

AUTHOR: Pastushkov, V. N.; Vdovina, E. S.; Kondrat'yev, Yu. A.; Ivin, S. Z.; Tarasov, V. V.

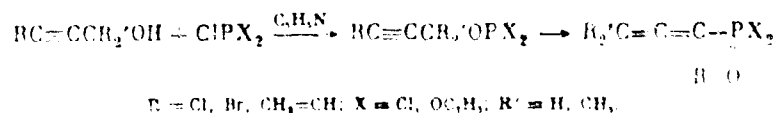
ORG: none

TITLE: 0,0-dialkyl  $\alpha$ -chloroallenylphosphonates

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1408

TOPIC TAGS: phosphonic acid, chlorinated organic compound, acetylene compound, phosphonate ester

ABSTRACT: The acetylene-allene rearrangement was reported earlier:



In the reaction of diethyl chlorophosphite with halogenated propargyl alcohols the individual reaction products could not be isolated. An additional study revealed that at temperatures below -20°C and on successive addition of the reagents the reaction remains at the allene isomer

Card 1/2

UDC. 547.341

ACC NR:

AP8022999

formation stage. This method was used to obtain 0,0-diethyl  $\alpha$ -chloroallenylphosphonate (31%), bp 102°C (2.5 mm); 0,0-dipropyl  $\alpha$ -chloroallenylphosphonate, bp 110°C (1.5 mm); and 0,0-diisobutyl  $\alpha$ -chloroallenylphosphonate, bp 112°C ( $4 \times 10^{-2}$  mm). [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 06Dec67

Card

2/2

ACC NR:

AP8022978

SOURCE CODE: UR/0079/68/038/006/1287/1290

AUTHOR: Pudovik, A. N.; Krupnov, V. K.

ORG: Kazan State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Thermal rearrangement of complete esters of phosphonous acids

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1287-1290

TOPIC TAGS: alkylphosphine oxide, phosphinic acid, phosphonous acid, phosphonite ester, phosphinate ester

ABSTRACT: Pure low-alkyl esters of ethylphosphonous acid remain unchanged when heated in a sealed tube in nitrogen at 270—280°C. Methyl and ethyl esters of phenylphosphonous acid also remain unchanged on heating for 7—8 hr at 225—230°C, but on heating for 9 hr at 245—250°C the dimethyl esters of phenylphosphonous acid undergo isomerization into the methyl ester of methylphenylphosphinic acid, which was hydrolyzed to form free methylphenylphosphinic acid (mp 132—133°C). The diethyl ester of phenylphosphonous acid also isomerizes at 245—265°C into the ethyl ester of ethylphenylphosphinic acid, which on heating for 2 hr at 275 to 280°C undergoes rearrangement to form ethylphenylphosphinic acid (mp 76—78°C):

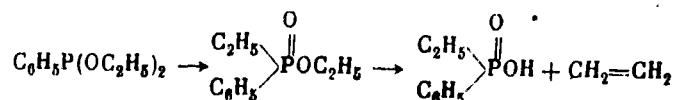
Card

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UDC: 546.183+543.226

ACC NR:

AP8022978



The diethyl ester of p-tolyl- and p-chlorophenylphosphonous acids on heating for 6 hr at 240—245°C undergo isomerization into the corresponding phosphinic acid esters. Under analogous conditions, ethyl esters of diphenylphosphinous acid isomerize into ethyldiphenylphosphine oxide. Orig. art. has: 2 figures. [WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 23Jun67/ ORIG REF: 005/ OTH REF: 002

Card

2/2

ACC NR:

AP8022997

SOURCE CODE: UR/0079/68/038/006/1406/1407

AUTHOR: Pudovik, A. N.; Krupnov, V. K.

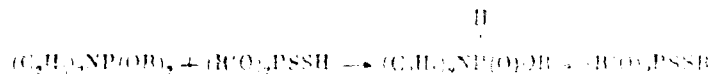
ORG: Kazan State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Synthesis of the ethyl ester of diethylamidophosphorous acid and its addition to unsaturated compounds

SOURCE: Zhurnal obshchey khimii, v. 38, no. 6, 1968, 1406-1407

TOPIC TAGS: phosphorous acid, organic phosphate, phosphorous amide, dithiophosphate ester

ABSTRACT: At -5 to -10°C, diethyl diethylamidophosphite was allowed to react with O,O-dialkyldithiophosphoric acids to form (55.3%) O-alkyl diethylamidophosphite, bp 78—80°C (8 mm) and O,O-dialkyl dithiophosphates:



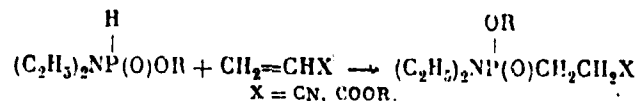
Card

1/2

UDC: 547.26'118

ACC NR: AP8022997

In the presence of catalytic amounts of sodium ethoxide, O-alkyl diethylamidophosphite reacted with an equimolar amount of unsaturated compounds to form the addition products:



The addition of O-alkyl diethylamidophosphite (I) to acrylonitrile yielded (65%) nitrile of ethoxydiethylamidophosphonopropionic acid, bp 102—104°C (0.5 mm). The addition of I to methyl methacrylate yielded (70%) the methyl ester of ethoxydiethylamidophosphonopropionic acid, bp 104—105°C (0.4 mm). The addition of I to ethyl acrylate yielded (77%) ethyl ethoxydiethylamidophosphonopropionate, bp 113—114°C (0.4 mm). [WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: 14Nov67/ ORIG REF: 003

Card 2/2

ACC NR: AP8020814

SOURCE CODE: UR/0450/68/002/005/0015/0018

AUTHOR: Sidenko, Z. S.; Limanov, V. Ye.; Skvortsova, Ye. K.; Dziomko, V. M.

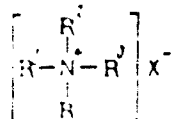
ORG: All-Union Scientific Research Institute of Chemical Reagents and Highly Purified Chemicals (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistikh khimicheskikh veshchestv); Central Scientific Research Disinfection Institute, Moscow (Tsentral'nyy nauchno-issledovatel'skiy dezinfektsionnyy institut)

TITLE: Synthesis and antibacterial activity of certain bis-ammonium compounds

SOURCE: Khimiko-farmatsevticheskiy zhurnal, v. 2, no. 5, 1968, 15-18

TOPIC TAGS: quaternary ammonium compound, bactericide, bacteriostasis

ABSTRACT: Among a group of compounds with highly antibacterial properties are monoquaternary ammonium salts such as:



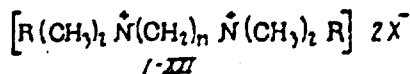
where  $R^1$ ,  $R^2$ , and  $R^3$  are relatively short alkyls ( $CH_3$ ,  $C_2H_5$ ,  $C_6H_5CH_2$ ).

Card

1/4

UDC: 615.777.12-012.5

R is a long-chain alkyl group containing 8—18 carbons. These compounds are easily soluble in water, have no odor and are not corrosive. Bis-quaternary ammonium compounds such as:



where R is a long chain alkyl group, are also antibacterial and their properties vary with n. Data on the compounds is shown in Table 1.

Table 1. Characteristics of compounds I—XXII

Compound no.	R	n	X	Mp in degrees C	Yield in %	Antibacterial effect			
						Concentration in %	exposure in min.		
							Staph. aureus	E. coli	
I	C <sub>8</sub> H <sub>17</sub>	6	Br	202—2.5	50.3	0.1	15	25	
II	C <sub>9</sub> H <sub>19</sub>	6	Br	207—7.5	72.7	0.05	25	+	
III	C <sub>10</sub> H <sub>21</sub>	6	Br	216—6.5	71.8	0.025	15	30	
IV	C <sub>11</sub> H <sub>23</sub>	6	Br	220—1	68.3	0.01	25	+	
						0.025	10	15	
						0.01	20	25	

Card

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Table 1. (Cont.)

V	C <sub>12</sub> H <sub>25</sub>	6	Br	225	70.4	0.025	10	15	
VI	C <sub>13</sub> H <sub>27</sub>	6	Br	220	78	0.01	20	25	
VII	C <sub>14</sub> H <sub>29</sub>	2	Br	102—3	62	0.1	20	30	
VIII	C <sub>15</sub> H <sub>31</sub>	2	Br	193—4	76.1	0.05	+	+	
IX	C <sub>16</sub> H <sub>33</sub>	2	Br	191—2	79.3	0.01	15	20	
X	C <sub>17</sub> H <sub>35</sub>	3	Br	208—9	74	0.005	30	25	
XI	C <sub>18</sub> H <sub>37</sub>	4	Br	216—7	70.6	0.01	15	20	
XII	C <sub>19</sub> H <sub>39</sub>	5	Br	221—2	63.8	0.025	10	25	
XIII	CH <sub>3</sub>	10	Br	248—8.5	76.2	0.01	30	40	
XIV	C <sub>8</sub> H <sub>17</sub>	10	Br	119	41	0.2	10	30	
XV	C <sub>12</sub> H <sub>25</sub>	10	Br	125—6	69	0.1	30	+	
XVI	CH <sub>3</sub>	20	Br	235—7	81.3	0.025	10	15	
XVII	C <sub>8</sub> H <sub>17</sub>	20	Br	116—7	78	0.01	5	25	
XVIII	C <sub>12</sub> H <sub>25</sub>	20	Br	169—70	77.6	0.05	15	30	
XIX*	C <sub>9</sub> H <sub>19</sub>	6	Cl	205—7	57.4	0.025	10	15	
XX*	C <sub>10</sub> H <sub>21</sub>	6	Cl	211—2	62.3	0.01	25	20	
XXI*	C <sub>12</sub> H <sub>25</sub>	6	Cl	214—5	59.7	0.005	15	20	
XXII	Trimethyl-cetyl-ammonium bromide			239—41	85	0.01	10	15	
						0.025	20	15	

+ indicates compound not effective;

\* indicates hygroscopic compound.

Card

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ACC NR.

AP8020814

In both classes of compounds, the presence of the cetyl radical enhances antibacterial activity. Maximum antibacterial activity occurs in compounds with two dodecyl groups. Chlorinated compounds are more effective antimicrobial agents than corresponding brominated compounds; and antibacterial activity decreases with increasing n. The distance between the two nitrogen atoms is also related to R because in two compounds with equal n, antibiotic effectiveness improves with decrease in R. Compounds XIII—XV were most active, and the activity of compound XXII (monoquaternary) was close to that of compound VIII. Orig. art. has: 1 table and 2 formulas. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 26Nov67/ ORIG REF: 004/ OTH REF: 011

Card

4/4

ACC NR.

AP8025421

SOURCE CODE: UR/0436/68/000/004/0018/0019

AUTHOR: Stopkan', V. V.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Systemic insecticide "Demuphos"

SOURCE: Khimicheskaya promyshlennost' Ukrainy, no. 4, 1968, 18-19

TOPIC TAGS: organic phosphorus insecticide, carbamic acid derivative, systemic insecticide

ABSTRACT: The effectiveness of the earlier synthesized systemic insecticide "Demuphos" [ $C_3H_7OCON(CH_3)P(O)(OCH_3)_2$ ] against *Bonthonoderes pioviventris* Germ. was studied in laboratory and field experiments. Before seeding, the sugar beet seeds were treated with an aqueous solution of the insecticide containing 0.25—2.5 kg "Demuphos" per centner seed. The seedlings were isolated with a glass "fence" and infested with the weevils. The insecticide "Avenin" [ $K-69-79(CH_3O)_2P(O)NH_2$ ] was used as the standard. The results are given in Tables 1 and 2. The

Card

1/4

UDC: 632.951

ACC NR:

AP8025421

Table 1. Systemic insecticidal activity of preparation against weevils of *Bonthynoderes punctiventris* Germ.

Preparation	Consumption of insecticide kg/centner seeds	Mortality of weevils in laboratory experiments, %		Mortality of weevils in field experiments, %			
		Within 24 hr	Within three days	Within 24 hr	Within three days	Within 24 hr for second batch of weevils	Within 3 days for second batch for weevils
"Demuphos"	2,5	47,5	60,1	70,0	100	32,5	68,7
The same	1,5	36,6	55,1	45,0	97,4	27,0	57,7
"	0,75	—	—	23,0	55,5	—	—
"	0,25	—	—	6,6	20,0	—	—

Card

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ACC NR:

AP8025421

Table 1. (Cont.)

"Avenin"	2,5	35,0	50,0	—	—	—	—
"Avenin" technical	2,5	27,0	50,0	40,0	77,1	11,1	22,2
The same	1,5	—	—	15,8	65,8	5,2	25,0
"	0,25	—	—	7,7	13,5	2,8	22,2
Control (without an insecticide)		0	0	0	0	0	2,6

Table 2. Degree of damage to the beet plants by *Bonthynoderes punctiventris* Germ. within 24 hr

Preparation	Insecticide used kg/centner seeds	Weevils mortality, %	Damage of beet seedlings by weevils, %		
			First degree	Second degree	Third degree
"Demuphos"	2,5	70	77	11	9

Card

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ACC NR: AP8025421

Table 2. (Cont.)

The same	1,5	45	70	18	12
"	0,75	33	52	20	28
"	0,25	7	31	27	42
"Avenin"	2,5	40	68	16	16
The same	1,5	16	44	20	36
"	0,25	8	37	13	50
Control (without an insecticide)	-	6	32	17	51

LD<sub>50</sub> for the insecticide "Demuphos" was determined for white mice as 1250 and for rats as 950 mg/kg. "Demuphos" is recommended as an effective insecticide against sugar beet weevil. Orig. art. has: 2 tables.  
[WA-50; CBE No. 35][PS]

SUB CODE: 07/ SUBM DATE: none

Card 4/4

ACC NR: AP8023943

SOURCE CODE: UR/0218/68/033/033/0604/0611

AUTHOR: Volkova, R. I.

ORG: Institute of Evolutionary Physiology and Biochemistry im. I. M. Sechenov, AN SSSR. Leningrad (Institut evolyutsionnoy fiziologii i biokhimii AN SSSR)

TITLE: Multiple inhibition of acetylcholinesterase by mono- and bis-quaternary ammonium compounds

SOURCE: Biokhimiya, v. 33, no. 3, 1968, 604-611

TOPIC TAGS: cholinesterase inhibitor, cholinolytic agent, monoquaternary nitrogen compound, bisquaternary nitrogen compound, CNS drug effect

ABSTRACT: This article appears in Biological Factors

Card

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UDC: 577.153

ACC NR:

AP8023935

SOURCE CODE: UR/0394/68/006/007/0048/0050

AUTHOR: Zosimovskaya, T. V.; Samgin, P. A.; Shutov, I. V.

ORG: [Zosimovskaya] VNII Podder (VNII kormov); [Samgin and Shutov]  
Leningrad NII of Forestry (Leningradskiy NII lesnogo khozyaystva)TITLE: Elimination of trees and shrubs by soil application of  
arboricides

SOURCE: Khimiya v sel'skom khozyaystve, v. 6, no. 7, 1968, 48-50

TOPIC TAGS: herbicide, ammonium sulfate, urea compound, chlorinated  
organic compound, arboricide

ABSTRACT: Large-scale application of arboricides by airplane spraying of trees and shrubs leads only to contamination of agricultural fields and orchards. Experiments were conducted with the application of granulated arboricides on the surface of the soil. The effectiveness of "Monuron" (I) [3-(p-chlorophenyl)-1, 1-dimethylurea], "Fenuron" (II) [according to a Russian source it is N-phenyl-N',N'-adimethylurea, which should not be confused with "Phenurone", which is phenylacetyl urea], an amine salt of 2,4-D (III), and ammonium sulfate (IV) as arboricides in the soil application method. A small meadow overgrown with alder (*Alnus*) trees and spruce (*Picea*) in the Leningrad region was used as the testing

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UDC: 632.954:631.612

ACC NR:

AP8023935

ground. To preserve the grass, the arboricides were applied in hills around the trees. The damage to the trees was estimated one year later. The results are given in Table 1. The effect of the arboricide II on the

Table 1. Effect of arboricide on *Alnus incana* (estimated one year after the arboricide application).

Arboricide (dose)		No. of hills with the arboricide per ha	Distance between the hills in cm.	% of plants with various degree of damage to the tree crown			
				Total necrosis	Marked damage	Slight damage	No damage
I	20 kg/ha	4	50	0	0	26	74
		16	25	0	0	49	51
Same	40 kg/ha	4	50	0	0	8	92
		1	100	0	2	20	78
II	20 kg/ha	16	25	64	15	12	9
		4	50	41	29	27	3
Same	40 kg/ha	16	25	78	15	7	2
		4	50	85	11	4	0
		1	100	48	39	11	2
III	30 kg/ha	16	25	52	6	20	22
		4	50	45	8	18	31
		1	100	41	5	18	36
IV	300 kg/ha	16	25	44	12	17	27
		4	50	36	23	10	31
		1	100	23	30	8	39

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ACC №

AP8023935

Table 2. The effect of "Fenuron" on the grass crop under dry Alnus trees (estimated one year after the arboricide application).

Preparation (dose)	No. of hills with the arboricide per m <sup>2</sup>	Grass crop in air-dry state (centner/ha)
II 20 kg/ha	16	18.0
	4	15.0
II 40 kg/ha	16	20.0
	4	25.0
	1	17.0
Control	-	16.0

grass under the trees is shown in Table 2. The study revealed that in this method of arboricide application, compound II in a dose of 40 kg/ha is the most effective. It may be used for the elimination of trees and shrubs on pasture, particularly under the condition of Northwestern part of the USSR where such meadows occur. Orig. art. has: 2 tables.

[WA-50; CBE No. 35] [PS]

SUB CODE: 07/ SUBM DATE: 31Jan67/ ORIG REF: 006/ OTH REF: 003

Card

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ACCESSION NUMBERS FOR CHEMICAL FACTORS

AP8028285	AP8030083	AP8030096
AP8028595	AP8030086	AP8030097
AP8028596	AP8030087	AP8030098
AP8028597	AP8030088	AP8030099
AP8028598	AP8030089	AP8030100
AP8028599	AP8030090	AP8030101
AP8028600	AP8030091	AP8030102
AP8028601	AP8030092	AP8030429
AP8028605	AP8030093	AP8030430
AP8028607	AP8030094	AP8030435
AP8028608	AP8030095	AP8030442
AP8028609		

## **II. BIOLOGICAL FACTORS**

ACC NR: AT8022712 SOURCE CODE: UR/0000/68/000/000/0128/0131

AUTHOR: Aleksevich, Ya. I.

ORG: L'vov Institute of Epidemiology and Microbiology (L'vovskiy institut epidemiologii i mikrobiologii)

TITLE: Immunization against tetanus during pregnancy

SOURCE: Kiyev. Institut epidemiologii, mikrobiologii i parazitologii. Voprosy immunologii (Problems of immunology) v. 3, Kiev, 1968, 128-131

TOPIC TAGS: immunogenesis, tetanus, tetanus toxoid, pregnancy

ABSTRACT: Experiments conducted in pregnant rats showed that immunization against tetanus during pregnancy does not result in immunologically tolerant offspring. When the young animals are subsequently vaccinated against tetanus, their immunity level is equivalent to that of animals whose mothers received no tetanus toxoid during pregnancy.

[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 1/1 UDC: 614.9-084.47-092

ACC NR: AT8022716 SOURCE CODE: UR/0000/68/000/000/0163/0167

AUTHOR: Anishchenko, G. A.

ORG: Donetsk Oblast Sanitation and Epidemiological Station (Donetskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya)

TITLE: Immunological study of the population of Donetsk oblast with respect to brucellosis

SOURCE: Kiyev. Institut epidemiologii, mikrobiologii i parazitologii. Voprosy immunologii (Problems of immunology) v. 3, Kiev, 1968, 163-167

TOPIC TAGS: brucellosis, serologic test

ABSTRACT: Immunological study of 3037 Donetsk oblast residents from 12 cities and 11 agricultural districts was conducted. The number of people in different population groups reacting positively to brucellosis depended on their proximity to a source of infection. The largest percentage of positive reactions was recorded among workers slaughtering diseased cattle, treating the raw material from these animals, or caring for sick animals. Among people previously inoculated with live brucellosis vaccine and in contact with a source of infection, 333 reacted positively in Huddleson's test, 225 in Wright's test, 53 in the complement fixation test, and 516 in the allergic skin test. Of 346 inoculated people not

Card 1/2 UDC: 616.981.42

ACC NR: AP8022716

in contact with a source of infection, 160 reacted positively in Huddleson's test, 79 in Wright's test, 27 in the complement fixation test, and 110 in the skin test. Of 921 noninoculated people with previous contact, the figures were: 244—Huddleson, 196—Wright, 28—complement fixation (out of 789) and 172—skin test. Only three positive reactions in the complement fixation test were noted among 799 people not inoculated and not in contact with a source of infection. On the basis of these results, it was concluded that brucellosis inoculations are not expedient. Orig. art. has: 2 tables. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8024073 SOURCE CODE: UR/0476/68/047/002/0298/0316

AUTHOR: Balashov, Yu. S.; Gutsevich, A. V.; Derbeneva-Ukhova, V. P.; Shipitsyna, N. K.

ORG: Zoology Institute, AN SSSR, Leningrad (Zoologicheskiy institut AN SSSR); Institute of Medical Parasitology and Tropical Medicine im. Ye. I. Martsinovskiy, Moscow (Institut meditsinskoy parazitologii i tropicheskoy meditsiny)

TITLE: Medical and veterinary entomology in the Soviet Union

SOURCE: Entomologicheskoye obozreniye, v. 47, no. 2, 1968, 298-316

TOPIC TAGS: medical entomology, veterinary entomology, disease vector, tick, typhus, malaria, fly, flea, louse, mosquito, tickborne encephalitis, tularemia

ABSTRACT: The history and development of medical entomology in the Soviet Union is reviewed. At the present time, medical entomology is considered the most important branch of entomology; large scientific centers have been formed in Moscow, Leningrad, Kazakhstan, Central Asia, Siberia, and the Transcaucasia devoted to medical entomological studies. Present emphasis is on determining the species composition of harmful

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UDC: 576.89(47)

ACC NR:

AP8024073

Diptera, tabanids, fleas, lice, and parasitic ticks for most of the Soviet Union. Principal sources of publication for such reports are "Fauna of the SSSR" and "Identification Guide to the Fauna of the SSSR" series, special monographs and symposia, as well as journals such as "Zoologichesk'y zhurnal," "Meditainskaya Parazitologiya," and others. Control and elimination of insect vectors from foci of tick-borne encephalitis, tularemia, murine typhus, rickettsioses, and many livestock diseases is the current goal. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 048

Card

2/2

ACC NR:

AP8023145

SOURCE CODE: UR/0392/68/000/003/0078/0080

AUTHOR: Bashkirev, T. A.; Boyko, V. A.; Rechkin, V. I.

ORG: Kazan NIEMG (Kazanskiy NIEMG).

TITLE: The epidemiology and prophylaxis of hemorrhagic fever with a renal syndrome in the middle Volga area

SOURCE: Kazanskiy meditsinskiy zhurnal, no. 3, 1968, 78-80

TOPIC TASS: hemorrhagic nephrosonephritis, disease carrying mammal, epidemiology

ABSTRACT: Study of 511 cases of hemorrhagic fever with a renal syndrome (HFR) in the middle Volga area in 1952--1964 showed that this disease has the same clinical symptoms as Far Eastern nephroso-nephritis. A total of 376 HFR cases occurred in the taiga, and 135 in the forest-steppe zone. The taiga focus of HFR consists of unbroken virgin forest, and the forest-steppe foci of deciduous forests (mostly in Tataria, Ul'yanovsk and Kuybyshev oblasts). In taiga foci 56% of the small mammals trapped were common redbacked voles (*Clethrionomys glareolus*) and 21.8% were northern redbacked voles (*C. rutilus*). Forest-steppe foci contained the same percentage of *C. glareolus* with few examples of the second species. Results of these studies and laboratory infections established these rodents as

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UDC: 616-084-616-022.6

ACC NR: AP8023145

the source of human infection. Most of the taiga infections were group infections and most of the forest-steppe infections, sporadic cases. In both foci, however, most cases occurred among lumbermen and construction workers regularly working in the forests. HFR in this area was most common in summer and fall, as contrasted with hemorrhagic fever with a fall-winter peak in other areas. HFR is probably transmitted by the respiratory route, as laboratory infections indicate, although the percutaneous route cannot be excluded. Recommended prophylactic measures include creation of a protective zone around settlements in the taiga area with the use of persistent rodenticides, and wearing of special clothing by people working in the focus. Complete rodent extermination is recommended for forest-steppe foci. In combined foci of hemorrhagic fever and tickborne encephalitis, rodent extermination should be combined with aerial DDT spraying. Orig. art. has: 1 table. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 005

Card 2/2

ACC NR: AT8012470

SOURCE CODE: UR/000G/67/000/000/0091/0097

AUTHOR: Bass, T. M. (Kiev)

ORG: none

TITLE: Resistance of pathogenic staphylococci to nitrofuranes and antibiotics

SOURCE: Dnepropetrovsk. Meditsinskiy institut. Antibiotiki (Antibiotics), no. 2. Kiev, Zdorov'ya, 1967, 91-97

TOPIC TAGS: nitrofurant antibiotic, staphylococcus, antibiotic resistance, antibiotic research

ABSTRACT: A large number of resistant strains were isolated among pathogenic *Staphylococci* originating in hospitals in Kiev between 1961--1963. These strains were particularly resistant to penicillin, streptomycin, levomycetin, and tetracycline. A higher percentage of these strains were resistant to streptomycin and levomycetin than to tetracycline and penicillin. These *Staphylococci* were relatively sensitive to neomycin, novobiocin, methicillin, and ristomycin, and especially

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UDC: 615.9

ACC NR: AT8012470

susceptible to erythromycin, oleandomycin, and sacasin. However, resistance to erythromycin has increased from 5% in 1961 to 13.5% in 1963. Furazolidone and other 5-nitrofurane antibiotics are effective against *Staphylococci*. Orig. art. has: 3 tables. [WA-50; CRE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 005

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ACC NR: AT8021814 SOURCE CODE: UR/0000/67/000/000/0441/0443

AUTHOR: Bayda, T. A.

ORG: KazNII of Plant Protection, Alma-Ata (KazNII zashchity rastenii)

TITLE: The effect of triazines on some physiological and biochemical processes in corn, and the quality of grain

SOURCE: Konferentsiya biokhimikov Respublik Sredney Azii i Kazakhstana, Ist. Alma-Ata, 1966. Trudy (Transactions of the First Conference of Biochemists of the Republic of Central Asia and Kazakhstan), Tashkent, Izd-vo "F-i," 1967, 441-443

TOPIC TAGS: plant metabolic effect, herbicide, herbicide application, aromatic nitro compound, amine

ABSTRACT: Field tests conducted in 1963-1965 on the effect of simazine [2-chloro-4,6-bis-(ethylamino)-S-triazine] and atrazine [2-chloro-4-ethylamino-6-isopropylamino-S-triazine] on the development of corn showed that herbicides in doses of 2.0-4.0 kg/hectare stimulated growth of plants. The chlorophyll content of mature plants treated with herbicides increased 9-19%, and as much as 21-24% when doses of 4.0 kg/hectare of simazine and atrazine were applied. The intensity of

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ACC NR: AT8021814

photosynthesis also increased 7—12% in early developmental stages. Peroxidase activity increased more in simazine-treated plants than in atrazine-treated ones, and more in plants given smaller doses of herbicide. Catalase activity in treated plants decreased. The biochemical composition of corn grains also changed: the total content of soluble sugars was 30% higher for simazine and 12% for atrazine, while the content of monosaccharides dropped 38.7—43.6%, respectively.

[WA-50; CBE No. 35][JS]

SUB CODE: C6/ SUBM DATE: none

Card 2/2

ACC NR: AP8021589

SOURCE CODE: UR/9057/68/002/003/0209/0214

AUTHOR: Bibikova, V. A.; Klassovskiy, L. N.

ORG: Central Asian Scientific Research Antiplague Institute, Alma-Ata (Sredneaziatskiy nauchno-issledovatel'skiy protivochumnyy institut)

TITLE: Phenotypical variability of plague agent in relation to change in host

SOURCE: Parazitologiya, v. 2, no. 3, 1968, 209-214

TOPIC TAGS: mutation, plague, Pasteurella pestis, host parasite relationship, disease carrying mammal, rodent, disease carrying insect, flea, epizootiology, agent vector cycle

ABSTRACT: A series of experiments to determine phenotypic variation in *Pasteurella pestis* during the rodent-flea-rodent agent-vector cycle was conducted. *Pasteurella* strains differing genetically in their abilities to produce I and VW antigen were incubated at 28° and 37°C and changes in I and VW antigen production were determined. Suspensions ( $2 \times 10^8$  cells/ml) of each strain were mixed with defibrinated rabbit blood and fed to white mice. Fleas (*Xenopsylla cheopis*) were allowed to feed on the mice. After 4 hr the engorged fleas were collected and 10

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UDC: 576.895.775.576.851.45

Table 1. Viability of plague agent in fleas as a function of the phenotypic indicators FI and VW

Strain No.	Incuba- tion tempera- ture	Presence of FI and VW antigens		% Initial infec- tivity	Terminal infectivity		
		Genotype	Phenotype		No. of fleas	of these	
						Absolute	%
100 {	28° 37	FI+, VW+	FI-, VW-	100	60	48	80.0
			FI+, VW+	90	60	19	31.7
161 {	28 37	FI+, VW+	FI-, VW-	90	90	64	71.1
			FI+, VW+	80	90	6	6.7
744 {	28 37	FI+, VW+	FI-, VW-	100	53	17	32.1
			FI+, VW+	100	79	7	10.0
296 {	28 37	FI+, VW-	FI-, VW-	80	110	69	62.7
			FI+, VW-	90	110	77	70.0
814 {	28 37	FI-, VW+	FI-, VW-	90	98	47	47.9
			FI-, VW+	60	100	42	42.0
257 {	28 37	FI-, VW-	FI-, VW-	80	50	19	38.0
			FI-, VW-	80	50	19	38.0

Card

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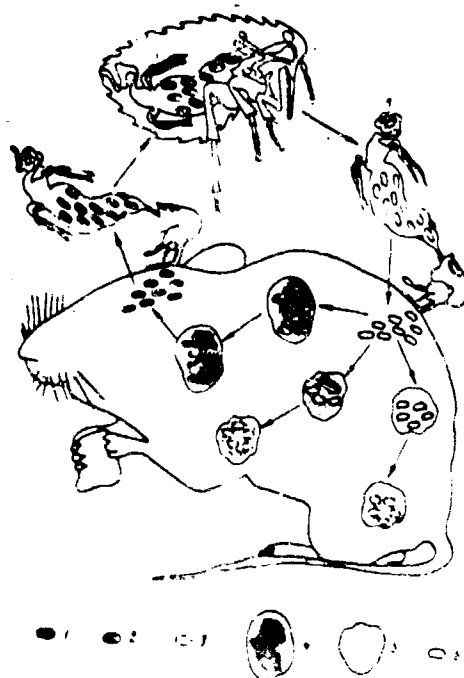


Fig. 1. Developmental cycle of plague microbes in the rodent

- 1 - Phenotype FI+ and VW+;  
 2 - microbes with altered phenotype; 3 - dying organisms;  
 4 - monocytes; 5 - PMN leucocytes; 6 - phenotypes FI-, VW-

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ACC NR:

AP8021589

of them were used to determine the degree of infectivity. The remaining fleas were kept at room temperature 22—25° for three days with healthy white mice as a food supply. After five days the degree of infectivity was determined. Results are shown in the table. Factors producing kills of bacteria in the rodent body during the adaptation period are unknown but the existence of a bactericidal digestive enzyme is postulated. FI- and VW- phenotypes appear to be more viable than the corresponding FI+ and VW+ strains (nos. 100,161,174). A suggested cycle of *Pasteurella pestis* in the rodent is shown in Figure 1. During the transition from plus to minus phenotype, a significant number of organisms die; natural selection operates to preserve phenotypes FI+,VW- and FI-,VW+, but the adaptive significance of this is not known. Orig. art. has: 1 figure and 1 table.  
[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 012

Card

4/4

ACC NR:

AP8023166

SOURCE CODE: UR/0439/66/047/006/0964/0965

AUTHOR: Cherepanov, A. I.

ORG: none

TITLE: Transactions of the first session of the regional council on zoological problems of Siberia held in Novosibirsk 26—27 Dec. 1967

SOURCE: Zoologicheskii zhurnal, v. 47, no. 6, 1968, 964-965

TOPIC TAGS: zoologic conference, biologic conference, epidemiology conference, agriculture conference

ABSTRACT: N. V. Nekipelov represented the network of antiplague institutions at this conference. Education, plant protection and lethological study groups were appointed. The ecology of fur bearing animals of the Far North and their relation to parasites and topography was discussed in a series of papers. Theoretical analyses of environmental topography in the maintenance and transmission of tickborne encephalitis, tularemia, hantavirus hemorrhagic fever, and other naturally focal infections of Siberia and the Far North were presented.  
[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none

Card

1/1

DOC: 54.061.3

ACC NR: AP8022446

SOURCE CODE: UR/0402/68/000/003/0377/0377

AUTHOR: Chumakov, M. F.; Butenko, A. M.; Shalunova, N. V.; Mart'yanova, L. I.; Smirnova, S. Ye.; Bashkirtsev, Yu. N.; Popov, G. V.; Zavodova, T. I.; Rubin, S. G.; Tkachenko, Ye. A.; Savinov, A. P.; Karmysheva, V. Ya.; Savinov, A. P.; Karmysheva, V. Ya.; Reyngol'd, T. I.

ORG: Institute of Poliomyelitis and Viral Encephalitides, AMN SSSR, Moscow (Institut poliomielita i virusnykh entsefalitov AMN SSSR)

TITLE: New data concerning the viral agent of Crimean hemorrhagic fever

SOURCE: Voprosy virusologii, no. 3, 1968, 377

TOPIC TAGS: virology, serologic test, arbovirus

ABSTRACT: The viral agent of Crimean hemorrhagic fever has been identified as a spherical, RNA-containing virus 100—130 mμ in diameter. In 1967 newborn white mice or rats were inoculated intracerebrally with the blood of a patient having acute Crimean hemorrhagic fever: 10 viral strains producing lethal disease in newborn white mice and rats (but not in adult rodents) were obtained. Complement fixation tests and diffusion-precipitation-in-agar tests with brain antigens from inoculated newborn white mice and convalescent human sera or immune animal sera were all

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UDC: 576.858(KGL)

ACC NR: AP8022446

positive. Negative results were obtained when antigens were tested with antibodies to other types of hemorrhagic fever and with arbovirus antibodies. The virus of Crimean hemorrhagic fever produced very slight cytopathic changes in transplanted fetal pig kidney cells, but not in other primary and transplanted cell cultures, although the virus multiplied in these cultures. No hemagglutinins were observed.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card

2/2

ACC NR: AP8022439

SOURCE CODE: UR/0402/68/000/003/0332/0336

AUTHOR: Chunikhin, S. P.; Chumakov, M. P.; Karaseva, P. S.; Semenov, B. F.

ORG: Institute of Poliomyelitis and Viral Encephalitis, AMN SSSR, Moscow (Institut poliomiylita i virusnykh entsefalitov AMN SSSR)

TITLE: Serological examination with 10 arboviruses of the sera of people, and domestic and wild animals in southern regions of Uzbekh SSR

SOURCE: Voprosy virusologii, no. 3, 1968, 332-336

TOPIC TAGS: serologic test, west nile encephalitis, arbovirus, sindbis virus

ABSTRACT: Study of the sera of 476 people, 529 domestic animals, and 587 wild animals in the Surkhan-Darya area of Uzbekistan in 1967 with ten arbovirus antigens showed that West Nile virus and Sindbis virus are in circulation here. The largest segments of immune population and the highest antibody titers were found in water birds (Ciconiiformes, coots, water rails, ducks, seagulls, gull-billed terns) and also in rollers. People and domestic animals were in contact almost solely with West Nile virus, and antibodies to Sindbis virus were only found in three people in titers of 1:40. The blood of migratory birds wintering in India and Africa did

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UDC: 616.988.25-036.21(575.1)

ACC NR:

AP8022439

not contain any different antibodies from those found in the blood of people, domestic and wild animals living in this area. Examination of the sera of people living in ten settlements showed that 1.0—30.9% of people were immune to West Nile fever, and 1.55—16.6% to Ntava virus (titers of 1:160 for both). Only 1.0—2.4% of inhabitants of large cities (Termez and Denau) were immune. Orig. art. has: 4 tables.

[WA-50; CBE No. 35][JS]

SUB CODE: 06/ SUBM DATE: 21Sep67/ ORIG REF: 008/ OTH REF: 002

Card

2/2

ACC NR AP8022586

SOURCE CODE: UR/0063/68/013/003/0282/0290

AUTHOR: Derbenenva-Ukhova, V. P. (Professor); Uspenskiy, I. V. (Candidate of biological sciences)

ORG: none

TITLE: Pesticides in the battle with insects preying on healthy humans

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 3, 1968, 282-290

TOPIC TAGS: insecticide application, pest control agent, disease vector, mosquito, malaria, tick, infectious disease, human ailment, tickborne encephalitis

ABSTRACT: Many populations of *Anopheles* mosquitoes are resistant to the contact insecticides commonly used, although the most common method (DDT in powder or oil emulsions) is still highly effective and not too dangerous to mammals. However, DDT is not persistent and the more persistent compounds such as dieldrin, HCH and the organophosphorous insecticides, malathion (carbophos) and others are toxic to mammals in small concentrations. Baytex and DDVP and the carbamates are increasingly employed and the choice of compound depends on the degree of infestation

Card

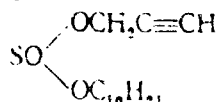
1/3

UDC: 632.934+632.7

ACC NR

AP8022586

of the mosquito and on environmental factors such as the proximity of humans or livestock. Insecticides are used in buildings to free the area of adults, and larvicides are applied to the breeding grounds. The chlorinated hydrocarbons most effective against larvae are heptachlor, dieldrin, lindane, and chlordane; methylnitrophos, malathion, and trichlorphos are the most useful organophosphorus compounds in places where resistance to the chlorinated compounds is high. *Aedes* and *Culex* carry a large number of dangerous infections in the Soviet Union. Insecticide treatment of their breeding grounds in late fall and early spring with DDT is recommended. Dieldrin and organophosphorus compounds are more effective, but their use involves the risks mentioned above. As a genus, *Culex* is more resistant to all types of insecticides than *Aedes*. DDT applications have completely eliminated *Simulium* in some areas. DDT dust but not HCH is recommended for *Phlebotomus* control. Most *Musca domestica* populations are resistant to all kinds of insecticides, and especially to chlorinated hydrocarbons. Binary organophosphorus mixtures have been successfully used against flies because of the synergistic properties of such mixtures (examples: dithion-rogor, Chlorophos-thiophos and Chlorophos-acetophos). Compounds such as



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ACC NR: AP8022586

have been tested on insects resistant to both chlorinated and organophosphorus compounds. Organotin compounds are also promising. Malathion is used against fleas and mites resistant to chlorinated hydrocarbons. DDT is recommended for the control of *Ixodes persulcatus*, and should be applied early in the season. Various acaricides are in the experimental stage. Orig. art. has: 1 formula. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 069/ OTH REF: 043

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ACC NR: AP8022430

SOURCE CODE: UR/0346/68/000/006/0120/0121

AUTHOR: Domatskiy, N.

ORG: none

TITLE: Veterinary seminar in Tyumen' Oblast

SOURCE: Veterinariya, no. 6, 1968, 120-121

TOPIC TAGS: veterinary science, biologic conference, veterinary conference, veterinary vaccine

ABSTRACT: The Tyumen' Branch, VNIIVS, held a seminar on combatting biting insects and ticks in the Urals and Western Siberia. V. Z. Yamov reported on the extensive infestation of livestock and practical measures used to combat these insects. An 8% chlorophos antiparasite spray is recommended. S.D. Pavlov described the biological bases for the current pest control methods in use and the success of regular spraying of livestock with insecticides and repellents. Heximide is desirable for milk cows and polychloropinine for calves. More effective sprays and sprayers are being sought by the VNIIVS. Reports from the practices of state farm veterinarians were given. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none

Card 1/1

ACC NR: AP8022422

SOURCE CODE: UR/0346/68/000/006/0085/0087.

AUTHOR: Dzasokhov, G. S.; Potemkin, V. I.; Nepoklonov, A. A.; Nepoklo-  
nova, M. I.; Pavlova, N. V.; Ivanova, N. I.; Pavlova, I. G.

ORG: Moscow Veterinary Academy (Moskovskaya veterinarnaya akademiya);  
All-Union Scientific Research Institute of Veterinary Sanitation (Vsesoy-  
uznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii)

TITLE: Sevin for combatting *Ixodes ricinus* ticks

SOURCE: Veterinariya, no. 6, 1968, 85-87

TOPIC TAGS: tick, insecticide application, acaricide

ABSTRACT: Laboratory and field tests (April-June 1966) demonstrated  
the pronounced acaricidal effect of sevin with respect to *Ixodes ricinus*  
ticks. Treatment of cattle with a 1% suspension of sevin killed 96-100%  
of ticks, with a 14-day residual effect. Satisfactory results were also  
obtained with 0.5% and 0.75% solutions of sevin, although in this case  
the residual effect lasted only 7-8 days. Laboratory tests with *I. rici-*  
*nus* and *Boophilus calcaratus* larvae and *I. ricinus*, *Rhipicephalus bursa*

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UDC: 619:614.449.57

ACC NR:

AP8022422

and *Hyalomma plumbeum* imagoes showed that tick larvae are less resistant  
to sevin suspensions than hungry imagoes. Orig. art. has: 1 table.  
[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card

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ACC NR: AP8023718

SOURCE CODE: UR/0297/68/013/007/0656/0659

AUTHOR: Eydel'shteyn, S. I.; Tsetlin, v. M.

ORG: All Union Scientific Research Institute of Antibiotics, Moscow  
(Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov)

TITLE: Antibiotics in aerosol cans

SOURCE: Antibiotiki, v. 13, no. 7, 1968, 656-659

TOPIC TAGS: antibiotic therapeutics, medical equipment, aerosol generator

ABSTRACT: The design criteria for aerosol cans designed to dispense antibiotics are discussed, and more use of aerosols in medicine is urged for the Soviet Union. The advantages of aerosols for wound treatment are that aerosols do not damage lacerated tissue and penetrate deeply into the wound. Inhalation of finely dispersed aerosols is recommended for the treatment of upper respiratory infections. The use of such preparations as calomine, zinc oxide, liniments, and antiseptics in dermatology is especially promising, and the fact that only the aerosol touches the tissues makes the aerosol dispersion of antibiotics and local anesthetics ideal for burn therapy. Other advantages of aerosol can packaging are that the medicines cannot be contaminated or lost, are stable, and the

Card 1/2

UDC: 616.835.5:615.779.9

ACC NR: AP8023718

cans themselves are unbreakable and easily portable. Orig. art. has:  
1 table. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 19Nov66/ ORIG REF: 003/ OTH REF: 003

Card 2/2

ACC NR

AP8022730

SOURCE CODE: UR/0385/68/004/003/0236/0242

AUTHOR: Fedorov, V. S.

ORG: Department of Pharmacology, Leningrad Pediatric Medical Institute  
(Kafedra farmakologii Leningradskogo pediatricheskogo meditsinskogo instituta)

TITLE: Effectiveness of mono- and bis-quaternary compounds disturbing neuromuscular transmission in newborn and adult mice

SOURCE: Zhurnal evolyutsionnoy biokhimii i fiziologii, v. 4, no. 3, 1968, 236-242

TOPIC TAGS: monoquaternary nitrogen compound, bisquaternary nitrogen compound, CNS drug effect, neuromuscular system, mouse

ABSTRACT: A comparative study of the effects of bis-quaternary nitrogen compounds with ten atoms between each nitrogen cation showed that the drugs are increasingly effective as their LD<sub>50</sub> diminishes, while the effectiveness of monoquaternary nitrogen compounds decreases with age. The effectiveness of bis-quaternary compounds with 14 to 16 atoms between

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





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UDC: 612.815.2-053+615.785.3-092-053

ACC NR

AP8022730

Table 1. Comparison of LD<sub>50</sub> and the standard distribution of lethal outcome ( $\sigma$ ) in newborn and adult animals

Substance	LD <sub>50</sub> (mg/kg)	LD <sub>50</sub> ( $\mu$ M/kg)	$\sigma$ ( $\mu$ M/kg)	$x^*$	LD <sub>50</sub> (mg/kg)	LD <sub>50</sub> ( $\mu$ M/kg)	$\sigma$ ( $\mu$ M/kg)	$x^*$	$\frac{LD_{50\text{ neonate}}}{LD_{50\text{ adult}}}$
<b>Neonates</b>									
 Tetramethylammonium	20.1	195.3 ± 11.3	36.8 ± 7.1	210	20.8	135.0 ± 3.8	7.14 ± 1.00	365	1.4
 Mefenol	21.0	52.1 ± 1.5	4.18 ± 0.77	50	78.5	160.4 ± 38.8	20.9 ± 19.4	460	0.3
d-Tubocurarine	0.74	0.01 ± 0.13	0.31 ± 0.06	1	0.29	0.37 ± 0.05	0.10 ± 0.03	1	2.5
 Paramion	1.60	2.78 ± 0.30	0.71 ± 0.15	3	0.27	0.44 ± 0.21	0.41 ± 0.12	1.2	6.3
 Dicitlin	8.9	21.6 ± 2.8	6.72 ± 1.30	26	1.81	5.01 ± 0.19	0.36 ± 0.09	13.5	4.9
 Decamethonium	11.0	21.5 ± 1.0	2.90 ± 0.50	23	5.35	10.4 ± 0.6	1.11 ± 0.31	28	2.1
 PK-95	3.48	8.61 ± 0.61	2.21 ± 0.23	8	0.70	1.13 ± 0.07	0.13 ± 0.03	3	5.0

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ACC NR:

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$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ <b>X5-72</b> <b>(disulfene)</b> $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$	12.5	10.0 ± 2.1	1.02 ± 1.21	21	5.15	7.00 ± 1.00	1.50 ± 0.50	10	2.0
$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ <b>PK-97</b>	0.50	1.22 ± 0.27	1.15 ± 0.14	1.3	0.71	1.10 ± 0.06	0.15 ± 0.01	3	1.1*
$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ <b>PK-119</b>	12.0	27.8 ± 5.0	13.0 ± 2.5	30	24.4	52.7 ± 1.5	3.20 ± 0.75	140	0.5
$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ <b>PK-119</b>	12.0	27.8 ± 5.0	13.0 ± 2.5	30	24.4	52.7 ± 1.5	3.20 ± 0.75	140	0.5
Mice									
Two day-old									
Tetramethylammonium . . . . .	15.8	100.0 ± 10.1	25.5 ± 5.2	153	21.7	140.8 ± 8.4	15.8 ± 4.2	282	0.8
d-Tubocurarine . . . . .	0.25	0.71 ± 0.07	0.22 ± 0.01	1	0.39	0.50 ± 0.03	0.18 ± 0.01	1	1.4
Ditilin . . . . .	12.0	33.1 ± 2.5	8.81 ± 1.20	47	5.12	11.2 ± 1.1	3.32 ± 0.54	28	2.7
PK-97 . . . . .	0.43	0.67 ± 0.04	0.12 ± 0.04	0.9	0.76	1.17 ± 0.05	0.09 ± 0.02	2.3	0.8
One week-old									
Ditilin . . . . .	--	--	--	--	4.39	13.5 ± 2.3	1.40 ± 1.13	--	1.05*

Legend: Asterisks (\*) by numbers indicate statistical differences. Confidence limits of average LD<sub>50</sub> values and of  $\sigma$  are taken at  $p = 0.05$ . K\* is the equipotential dose of substances in comparison to d-tubocurarine (no. of molecules of substance producing the same effect as one molecule of d-tubocurarine)

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ACC NR:

AP8022730

nitrogens also increases with age but less than in compounds with 10 atoms between nitrogens. Orig. art. has: 1 table and 2 formulas.

[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: 16Aug67/ ORIG REF: 018

Card

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ACC NR

AP8022440

SOURCE CODE: UR/0402/68/000/003/0341/0345

AUTHOR: Gil'dina, S. S.; Morogova, V. M.

ORG: Ufa Scientific-Research Institute of Vaccines and Sera im. Mechnikov  
(Ufimskiy nauchno-issledovatel'skiy institut vaktsin i syvorotok)

TITLE: A dry, sucrose stabilized completely inactivated Fermi rabies vaccine

SOURCE: Voprosy virusologii, no. 3, 1968, 341-345

TOPIC TAGS: rabies, immunogenesis, rabies vaccine

ABSTRACT: Dry Fermi rabies vaccine inactivated at 22°C for 14 days contained live virus in titer from less than  $10^{-1}$  to  $10^{-2.8}$  ( $LD_{50}$ ). Vaccine prepared from a sheep brain suspension and inactivated at 37°C for seven days contained a very small amount of live virus, which was killed by lyophilization. Inactivation at this temperature for 8-10 days also destroyed all live virus. Rabbit vaccine inactivated at 37°C for four days contained a small amount of live virus (less than  $10^{-1}$  titer in two out of seven test series). The resistance indices of vaccine kept at 37°C for seven days were somewhat lower than the indices for vaccine

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UDC: 615.372-014.121:576.851.551

ACC NR

AP8022440

inactivated 14 days at 22°C, but were still high. Resistance indices for dry vaccine inactivated at 22°C for 14 days and 37°C for 4-7 days and kept in a thermostat for 14 days to 3 mo, were considerably lower. The immunogenic properties of dry sheep vaccine inactivated 14 days at 22°C were retained for two years (the observation period), and of dry sheep vaccine inactivated at 37°C for 7 days, 1 yr (the observation period). On the basis of these tests, completely inactivated, dry rabies vaccine is recommended for medical use. Orig. art. has: 6 tables.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 25Sep67/ ORIG REF: 006/ JTH REF: 001

Card

2/2

ACC NR: AP8022411

SOURCE CODE: UR/0346/68/000/006/0023/0025

AUTHOR: Gorshunova, L. P.; Kosheleva, N. I.; Parasonis, M. I.

ORG: Institute of Virology im. D. I. Ivanovskiy, AMN SSSR (Institut virusologii AMN SSSR)

TITLE: Biochemical changes in animal brains during rabies vaccination

SOURCE: Veterinariya, no. 6, 1968, 23-25

TOPIC TAGS: rabies, rabies vaccine, immunogenesis, fluorescent antibody method

ABSTRACT: During immunization of white mice and rats, rabbits, and puppies with live rabies fixed virus and Fermi vaccine, the antigen of rabies fixed virus was localized, not only in the organs of immunogenesis (lymph nodes and spleen), but also penetrated the brain in small amounts. This regular penetration of rabies antigen into the animal brain is an inherent part of the process of formation of rabies immunity. The increase in the content of mucolipids in the brains of animals inoculated against rabies can be considered a reaction to the penetration of a minimum amount of rabies fixed virus antigen. In a number of biological tests rabies virus was observed in animal brains 7-15 days after inoculation, while with the direct fluorescent antibody method, virus could be

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UDC: 619:616.988.21-097.2

ACC NR:

AP8022411

detected in brain tissue from three days after initial inoculation up to three months. On the third day after inoculation, small polymorphic granules were noted in the cytoplasm of some brain cells; their number increased to a maximum at 15-20 days and decreased after 30 days. Orig. art. has: 1 table. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 011/ OTH REF: 009

Card

1/2

ACC NR:

AP8020652

SOURCE CODE: UR/0433/68/000/005/0025/0026

AUTHOR: Grivanov, K. P. (Doctor of agricultural sciences)

ORG: NIISKh South-Eas. (NIISKh Yugo-Vostoka)

TITLE: Grass aphids

SOURCE: Zashchita rasteniy, no. 5, 1968, 25-26

TOPIC TAGS: economic entomology, plant disease control, plant parasite, pest control agent, insect ecology

ABSTRACT: Over twenty grass aphid species infest crops in the Soviet Union. The most important of these are: *Brachycolus noxius*, *Schizaphis graminarum*, *Sitobion avenae*, *Rhopalosiphon padi*, *Diurctus obsoletes* and *Anthocorus* sp. *Brachycolus noxius* does not migrate, has a 7-14-day life cycle, and attacks winter wheat in Northern Kazakhstan, Central Asia, and the Ukraine. *Schizaphis graminarum* is nonmigratory, is widely distributed, and attacks rice, barley, corn, and several species of wheat. The other species are all migratory. In some areas they have become resistant to the highly toxic contact poisons. Seed treatment with insecticide (metaphos or methylnitrophos) is the current preventive practice.

[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none

Card

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UDC: 633.1:595.752.1

ACC NR:

AT8023476

SOURCE CODE: UR/0000/67/000/000/0152/0154

AUTHOR: Gubarev, Ye. A.

ORG: TsNIL /Head--Assoc. Prof. E. M. Kogan/ (TsNIL); Department of Pharmacology, /Head-Prof. M. F. Merkulov/, II Moscow Medical Institute im. N. I. Pirogorov (Kafedra farmakologii Moskovskogo meditsinskogo instituta)

TITLE: Some mechanisms of increasing the permeability of the cell-blood barrier

SOURCE: Vsesoyuznaya konferentsiya TsNIL meditsinskikh vuzov SSSR, 1st, Moscow, 1967. Modelirovaniye, metody izucheniya i eksperimental'naya terapiya patologicheskikh protsessov; trudy, chast' II (Modeling, methods of study and experimental therapy of pathological processes; transactions, pt. II), 152-154

TOPIC TAGS: histamine, histohematic barrier, ascorbic acid

ABSTRACT: Study of the effect of histamine on vascular permeability and the permeability of the cell-blood barrier in some animal organs showed that the ascorbic acid level is directly related to the degree of permeability of the cell-blood barrier. Changes in connective-tissue structures caused by histamine apparently represent the final stage in a complex process, preceded by decrease in the ascorbic acid content in

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ACC NR: AT8023476

tissues. This decrease in tissue ascorbic-acid content activates tissue hyaluronidase, depolymerizing hyaluronic acid and increasing permeability of the cell-blood barrier. The permeability of the cell-blood barrier was studied in the brain, liver, and kidneys of white rats by using albumin labelled with radioactive iodine. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8022210 SOURCE CODE: UR/0240/68/000/006/0006/0010

AUTHOR: Kaloyanova, F.; Ivanova, L.; Dimov, G.; Mukhtarova, M.

ORG: none

TITLE: Experimental determination of the maximum permissible concentration of Bi-58 (rogor) fosfamid in atmospheric air

SOURCE: Gigiyena i sanitariya no. 6, 1968, 6-10

TOPIC TAGS. insecticide intoxication, air pollution, cholinesterase inhibitor

ABSTRACT: The maximum permissible concentration for a one-time exposure to Bi-58 (O-O-dimethyl-S-N-methylcarbamidomethyl dithiophosphate) in atmospheric air is 0.005 mg/m<sup>3</sup>, a concentration which cannot be detected by smell and does not affect reflexes (adaptation of the visual analyzer). A reliable increase in excitability and electrical sensitivity of the eye was observed in people exposed to a concentration of 0.025 mg/m<sup>3</sup>, and a decrease in excitability only with much higher concentrations of Bi-58 (0.1 mg/m<sup>3</sup>). Chronic experiments with rats and guinea pigs indicated that a concentration of 0.05 mg/m<sup>3</sup> has a minimal toxic effect, and a

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UDC: 613.155.3:615.778.3

ACC NR: AP8022210

concentration of 0.01 mg/m<sup>3</sup> has no effect. Animals exposed to 4.5 mg/m<sup>3</sup> of Bi-58 8 hr per day for 3 mo showed decreased cholinesterase activity throughout the test period, an increased leukocyte count in the third month, and a drop in the nitrogen content of the urine. It was concluded that the maximum permissible single concentration of Bi-58 and the maximum permissible daily concentration should be the same (0.005 mg/m<sup>3</sup>). Orig. art. has: 1 figure. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 28Jan67/ ORIG REF: 006/ OTH REF: 002

Card 2/2

ACC NR: AP8022449

SOURCE CODE: UR/0252/68/046/003/0142/0144

AUTHOR: Kumalyan, G. A.

ORG: Scientific-Research Mining and Metallurgical Institute, Ministry of Ferrous Metallurgy, SSSR (Nauchno-issledovatel'skiy gornometallurgicheskiy institut Ministerstva tsvetnoy metallurgii SSSR)

TITLE: Antibacterial properties of a silver chlorophyll complex

SOURCE: AN ArmSSR. Doklady, v. 46, no. 3, 1968, 142-144

TOPIC TAGS: bactericide, chlorophyll

ABSTRACT: A new silver-chlorophyll complex, obtained by allowing silver nitrate solution to react with an alcoholic extract of chlorophyll, has a wide antibacterial spectrum and can be recommended (after further tests) for treatment of wounds and burns and as a disinfectant. The product is a dark brown insoluble powder containing 220 mg/g of silver. This preparation has a strong antibacterial effect against *St. aureus* 209; *Candida albicans* and *Torula utilis*, strain 20; and a moderate antibacterial effect with respect to *Bac. cereus*, strain 617; *Bac. thuringiensis*, strain 614; and *Bac. megaterium*, strain 6. Cultures of *St. aureus* and

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UDC: 615.37

ACC NR: AP8022449

*Sh. shiga* were inhibited in zones of 20—25 cm; and cultures of *S. paratyphi* B-412, B-438, and B-355; *S. typhi* 289,356, and 134; *Sh. sonnei*, *Sh. boydii*, and *Sh. flexneri* in zones of 10—15 cm. Orig. art. has: 2 tables and 4 figures. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

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ACC NR: AP0023747

SOURCE CODE: UR/0248/68/000/007/0090/0095

AUTHOR: Kanchurin, A. Kh.; Kamzolkina, N. B.

ORG: Scientific Research Institute of Vaccines and Sera im. I. I. Meclini-kov, Moscow (Nauchno-issledovatel'skiy institut vaktsin i syvorotok)

TITLE: Culturing myelinated nerve tissue in tissue cultures

SOURCE: AMN SSSR. Vestnik, no. 7, 1968, 90-95

TOPIC TAGS: tissue culture method, tissue extract, CNS, physiology, neuron

ABSTRACT: Techniques and media for culturing myelinated nerve tissue *in vitro* are reviewed. The literature contains conflicting reports on the efficacy of most standard media. The addition of chick embryo extract to the tissue culture medium is generally considered to stimulate myelinization. Some authors consider it an indispensable component. Chick plasma has been used in a colloidal explant medium, but many explants, especially from early embryonic tissue, acquire fibrinolytic properties. Glucose (500—600 mg %) should also be present in the medium. Cortisone stimulates nerve cell growth but inhibits division in glial cells. Optimum culture temperature is 35.5—37.5 °C; no myelinization was observed at 21°. Migration of neurons in explants

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UDC: 611-018.8-085.13

ACC NR: AP8023747

depends on the medium and the age of the embryo. Early myelin formation occurs in 16—18-day cultures and is well established by the fourth week. Cultures usually are degenerate by the 108th day. Reports of microscopic observations of neural cultures in different growth phases and reports of the successful culture of adult human and various animal tissues are cited. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 059

Cord

2/2

ACC NR: AP8022417

SOURCE CODE: UR/0346/68/000/006/0039/0041

AUTHOR: Kantorovich, R. A.; Konovalov, G. V.

ORG: [Kantorovich] Institute of Epidemiology and Microbiology im. N. F. Gamaleya, AMN SSSR (Institut epidemiologii i mikrobiologii AMN SSSR); [Konovalov] Institute of Experimental Medicine, AMN SSSR (Institut eksperimental'noy meditsiny AMN SSSR)

TITLE: Experimental morphological study of Arctic viral encephalitis, rabies and Tobolsk encephalomyelitis in immunized animals

SOURCE: Veterinariya, no. 6, 1968, 39-41

TOPIC TAGS: encephalitis, encephalomyelitis, rabies

ABSTRACT: Trial immunization of polar foxes demonstrated that the antigenic properties of Arctic viral encephalitis and rabies virus are identical, and that both of them are close (but not identical) to Tobolsk encephalomyelitis virus. Polar foxes were immunized with Fermi rabies vaccine, a Fermi-type vaccine for Arctic viral encephalitis, and formalized vaccine for Tobolsk encephalomyelitis. In immunized animals with no disease symptoms, virus was not isolated from the central nervous

Cord

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UDC: 619:616.988.21-091:636.93

ACC NR: AP8022417

system and morphological changes in the CNS were not noted. It was concluded that wide use of both Fermi vaccines will protect animals simultaneously from rabies and Arctic viral encephalitis. Orig. art. has: 1 table. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8022405

SOURCE CODE: UR/0242/68/000/005/0047/0050

AUTHOR: Karimov, Z. N.; Malikov, Kh. M.; Goncharov, V. Ye.; Brushko, Z. K.

ORG: Department of Pathological Physiology/Head--Prof. M. N. Khanin/, Tashkent Medical Institute (Kafedra patologicheskoy fiziologii Tashkent-skogo meditsinskogo instituta)

TITLE: Toxicological and morphological characteristics of the action of Central Asiatic cobra venom on the animal body

SOURCE: Meditsinskiy zhurnal Uzbekistana, no. 5, 1968, 47-50

TOPIC TAGS: snake venom, toxicology

ABSTRACT: Multiple injections of cobra venom, in addition to damaging the nervous system, caused pronounced functional changes in the organs of mice, rats, and rabbits. Animals received graded doses of venom from lethal (2.4 mg/kg for mice, 1.8 mg/kg for rats and 1 mg/kg for rabbits) to maximum permissible either subcutaneously or intraperitoneally. Mice were given ten doses of 1.4 mg/kg to determine internal organ changes. Intoxication in all cases was characterized by excitation in the first phase, and depression with respiratory arrest in the second phase. Multiple injection of sublethal doses of cobra venom produced hemorrhages in

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ACC NR:

AP8022405

lungs, and enlargement and plethora of liver and spleen, with no local reaction at the injection site. Drastic circulatory, dystrophic, and destructive changes in parenchymatous tissue were most pronounced in liver and kidneys, lungs, and heart. Pathological changes included fatty dystrophy in liver, massive alveolar hemorrhages, degenerative changes in ganglionic cells, and increased macrophage content in the spleen, in addition to the above-mentioned shifts. The LD<sub>50</sub> of Central Asiatic cobra venom for mice on intravenous administration was 1.2 mg/kg, with 1.3 mg/kg for the intramuscular route and 1.4 mg/kg for subcutaneous injection. Orig. art. has: 2 tables. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 22Sep67/ ORIG REF: 005

Card

2/2

ACC NR:

AT8019441

SOURCE CODE: UR/3355/65/013/000/0126/0132

AUTHOR: Kasymova, Kh. A.; Shnyreva, Ye. A.

ORG: none

TITLE: Clinical shifts in the state of health of people inoculated against brucellosis with live vaccines outside infectious foci

SOURCE: AMN SSSR. Kazakhskiy institut krayevoy patologii. Trudy, v. 13, 1965. Brutsellez v Kazakhstane (Brucellosis in Kazakhstan), 126-132

TOPIC TAGS: brucellosis, immunogenesis, bacterial disease vaccine

ABSTRACT: Healthy people inoculated with live brucellosis vaccines B-19 and 104-M outside brucellosis foci developed rapidly reversed physiological shifts (liver enlargement, minor joint injuries) within 1.2-2 mo of vaccination. In the first two months after vaccination, most patients experienced aggravation of accompanying diseases such as influenza or catarrh of upper respiratory passages (aggravation occurred in 22.8% of patients inoculated with B-19 vaccine, 16.9% of patients given 104-M vaccine, and 12.3% of controls). In a few cases people inoculated with 104-M vaccine developed abortive cases of brucellosis. Immunological rearrangement was considerably more intense in people inoculated

Card

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ACC NR: AT8019441

intracutaneously than in those given subcutaneous injections. Enough vaccinal culture apparently enters the body with intracutaneous inoculation to evoke pronounced serological and allergic reactions. [Inoculation doses were not given]. Orig. art. has: 1 table.

[WA-50; CSE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 014/ OTH REF: 002

Card 2/2

ACC NR: AP8021390 SOURCE CODE: UR/0217/68/013/003/0548/0550

AUTHOR: Khashayev, Z. Kh.; Liberman, Ye. A.

ORG: Institute of Biological Physics, AN SSSR, Pushchino-na-Oka (Institut biologicheskoy fiziki AN SSSR)

TITLE: Effect of aminazine and tofranil on the frequency of miniature potentials

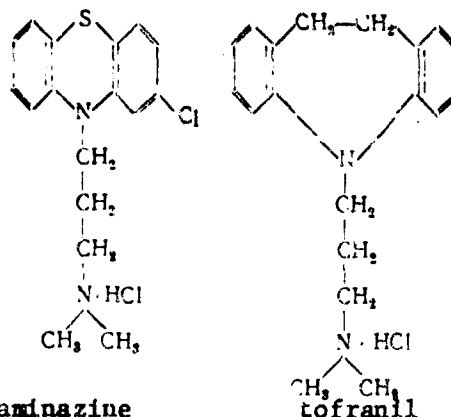
SOURCE: Biofizika, v. 13, no. 3, 1968, 548-550

TOPIC TAGS: CNS physiologic effect, nervous system drug effect, tranquilizer

ABSTRACT: The effects of the tranquilizers aminazine and tofranil on miniature potentials was studied in frog muscle. These compounds decrease the MP frequency in doses of  $10^{-8}$ — $10^{-7}$ M. Maximum changes occur between

Card 1/2

ACC NR: AP8021390



40—60 min after administration. Larger concentrations ( $1-5 \times 10^{-5}M$ ) increase the frequency. They increase  $Ca^{++}$  metabolism in the mitochondria of the nerve endings. Orig. art. has: 2 tables.

[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002

Card

2/2

ACC NR: AT8022702

SOURCE CODE: UR/0000/68/000/006/0023/0026

AUTHOR: Khatuntsev, V. V. (Deceased)

ORG: Kiev Institute of Epidemiology, Microbiology and Parasitology  
(Kiyevskiy institut epidemiologii, mikrobiologii i parazitologii)

TITLE: The relationship between general and local manifestations of botulinum intoxication in mice

SOURCE: Kiyev. Institut epidemiologii, mikrobiologii i parazitologii.  
Voprosy immunologii (Problems of immunology) v. 3, Kiev, 1968, 23-26

TOPIC TAGS: botulinum toxin, antitoxin, toxicity

ABSTRACT: Trial inoculations of white mice with large doses of botulinum toxin, types A and E, combined with a separate simultaneous injection of antitoxin, showed that local and generalized injuries from the toxin can be completely separated. Local injuries at the injection site tended to be more severe with simultaneous antitoxin administration than during lethal intoxication. Animals did not die when antitoxin was administered in this manner. For both types of toxin, twice as much antitoxin as the calculated neutralizing dose had to be administered to prevent death of animals (2.5 AU for 100 Dlm of toxin). With injection of 50 Dlm of toxin

Card

1/2

UDC: 616.981.553-092

ACC NR: AT8022702

into the rear paws of mice, and with simultaneous injection of 2.5 AU of antitoxin into the back of the neck, paralysis of rear legs and rear body developed on the following day. In spite of paralysis of rear extremities, mice moved about on front legs, ate well and behaved normally. According to these data, local and generalized intoxication symptoms during botulinum poisoning (as during intoxication with tetanus toxin in previous studies) are completely independent of one another.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SURM DATE: none

Card 2/2

ACC NR: AT8022702 SOURCE CODE: UR/0000/68/000/000/0026/0030

AUTHOR: Khatumtsev, V. V. (Deceased)

ORG: Kiev Institute of Epidemiology, Microbiology and Parasitology  
(Kiyevskiy institut epidemiologii, mikrobiologii i parazitologii)

TITLE: The relationship between general and local injuries during intoxication of guinea pigs with botulinum toxin

SOURCE: Kiyev. institut epidemiologii, mikrobiologii i parazitologii.  
Voprosy immunologii (Problems of immunology) v. 3, Kiev, 1968, 26-30

TOPIC TAGS: botulinum toxin, toxicology

ABSTRACT: Generalized and local injuries from injection of botulinum toxin, type A or B, into guinea pigs were independent to some extent, and injuries at the site of infection were not a mirror reflection of the generalized intoxication. Local injuries produced by injection of botulinum toxin into guinea pigs and mice (previous studies) are apparently of peripheral origin and are caused by the effect of toxin on the nerve endings. Injection of guinea pigs with 50 Dlm (for mice) of type A botulinum toxin (subcutaneously in both rear paws) and 20 AU of antitoxin simultaneously (in the back of the neck) produced local injuries on the

Card 1/2

UDC: 615.961.553.092

ACC NR:

AT8022703

following day. These injuries were more severe than those from a lethal dose of toxin. Rear paws were completely paralyzed within 48 hr, but animals moved around on front legs and otherwise appeared normal. Analogous results were obtained with toxin B, although it is less suitable for these studies. Comparison of these data with results of similar experiments involving tetanus toxin indicate that botulinum toxin is not absorbed more rapidly than tetanus toxin. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Cord

2/2

ACC NR:

AP8022409

SOURCE CODE: UR/0242/68/000/005/0080/0080

AUTHOR: Klots, V. I.

ORG: Andizhan Oblast Sanitation and Epidemiological Station (Andizhan-skaya oblastnaya sanepidstantsiya)

TITLE: Cases of allergy to cholera vaccine

SOURCE: Meditsinskiy zhurnal Uzbekistana, no. 5, 1968, 80

TOPIC TAGS: cholera vaccine, cholera, vaccination reaction

ABSTRACT: Twelve out of 15 medical workers giving 25—40 cholera vaccinations per day at the Irkutsk Antiplague Institute in 1966 developed allergic reactions. One group of four people showed weakness, headache, reddening of the face, occasional rash and itching, and diarrhea. A second group of six people had a general feeling of poor health accompanied by headaches and an itching chest-and-leg rash. A third group of two people experienced a slight rash and conjunctivitis. Probable routes of sensitization include skin, eyes, and respiratory passages. It was surmised that vaccine may have been sprayed into the air during injection and during dilution of the vaccine. Allergic reactions appeared on the

Cord

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ACC NR: AP8022409

6--10th day of work with the vaccine, continued throughout the two-month immunization period and disappeared 3--7 days after completion of inoculation. It is recommended that medical workers giving cholera inoculations wear face masks and surgical gloves. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 28Oct67

Card 2/2

ACC NR: AT8021805 SOURCE CODE: UR/0000/67/000/000/6292/0294

AUTHOR: Klyuyeva, S. G.; Sakhibov, D. N.; Ganiyeva, N.

ORG: Institute of Zoology and Parasitology, AN UzSSR, Tashkent (Institut zoologii i parazitologii AN UzSSR)

TITLE: Immuno-electrophoretic study of the antigenic composition of venoms of the blunt-nosed viper and the saw-scaled viper

SOURCE: Konferentsiya biokhimikov Respublik Sredney Azii i Kazakhstana, 1st. Alma-Ata, 1966. Trudy (Transactions of the conference of biochemists of the Republics of Central Asia and Kazakhstan). Tashkent, 1rd-vo "Fan", 1967, 292-294

TOPIC TAGS: snake, venom, immuno-electrophoresis, antigen

ABSTRACT: Immuno-electrophoresis of crystalline venoms of the blunt-nosed viper (*Vipera lebetina*) and the saw-scaled viper (*Echis carinatus*) showed that the blunt-nosed viper's venom consists of 19 antigens, and the saw-scaled viper's, 17 antigens. Immuno-electrophoresis of isolated fractions of blunt-nosed viper's venom gave 30 precipitation bands. With refinement

Card 1/2

ACC NR:

AT8021805

of the method, more and more antigens are found in snake venoms. Antigen-antibody reactions in these tests were conducted with antivenom horse serum.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card

2/2

ACC NR:

AP8022426

SOURCE CODE: UR/0346/68/000/006/0098/0099

AUTHOR: Kolomakin, G. A.; Korobchenko, M. I.; Bel'chenko, G. A.; Timonina, M. S.; Legkodimov, V. V.; Smirnova, M. M.; Shvanskiy, V. B.

ORG: Kazakh Republic Veterinary Laboratory (Kazakhskaya respublikanskaya veterinarnaya laboratoriya)

TITLE: Complex diagnosis of animal rabies in Kazakh SSR

SOURCE: Veterinariya, no. 6, 1968, 98-99

TOPIC TAGS: rabies, fluorescent antibody method

ABSTRACT: Complex rabies diagnosis consisting of microscopic study of smears and sections, the precipitation in agar reaction with antirabies gamma globulin, and the fluorescent antibody method, was successfully used to diagnose rabies in 378 domestic and wild animals. Diagnoses were confirmed within five days. Rabies virus strain 58 was isolated from the brain of a cow bitten by a rabid fox. Initially, Negri bodies were not observed and the precipitation in agar test was negative, but after five passages in dogs, strain 58 gave a positive reaction in the precipitation

Card

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UDC: 619:616.988.21-078(574)

ACC NR:

AP8022426

test and created Negri bodies in dog brains. It was concluded that the results of the precipitation test with antirabies gamma globulin depend on the organism through which the virus is passaged. The fluorescent antibody method with antirabies gamma globulin was only 72.8% effective when used alone. Orig. art. has: 3 tables. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card

2/2

ACC NR:

AT8021806

SOURCE CODE: UR/0000/67/000/000/0294/0296

AUTHOR: Krylova, Ye. S..

ORG: Institute of Zoology and Parasitology, AN UzSSR, Tashkent (Institut zoologii i parazitologii AN UzSSR)

TITLE: The hemorrhagic and thromboplastic activity of electrophoretic fractions of blunt-nosed viper venom

SOURCE: Konferentsiya biokhimikov Respublik Sredney Azii i Kazakhstana, 1st. Alma-Ata, 1966. Trudy (Transactions of the conference of biochemists of the Republics of Central Asia and Kazakhstan). Tashkent, Izd-vo "Fan," 1967, 294-296

TOPIC TAGS: electrophoresis, snake venom, blood coagulation

ABSTRACT: Electrophoresis of the venom of the blunt-nosed viper (*Vipera lebetina*) separated the thromboplastic and hemorrhagic components of venom, thereby isolating those components responsible for the effect of whole venom administered by different routes. Thromboplastic components moved to the cathode, and hemorrhagic components to the anode. The K<sub>2</sub> fraction of venom reduced clotting time of rabbit blood from a norm of 6 min to 50 sec, the same clotting time as whole venom. Fraction A<sub>3</sub> of the anode components damaged 50% of the inner surface of mouse skin in

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ACC NR: AT8021806

3 hr (dose 2.8 mg/kg), the same time as was observed for whole venom. The LD<sub>50</sub> for whole venom and fraction K<sub>2</sub> was identical on intravenous inoculation, and for whole venom and fraction A<sub>3</sub> on subcutaneous inoculation. Orig. art. has: 2 tables. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8023165

SOURCE CODE: UR/0439/68/047/006/0954/0958

AUTHOR: Kulik, I. L.

ORG: Laboratory of Medical Zoology, Institute of Epidemiology and Microbiology, Academy of Medical Sciences, SSSR (Laboratoriya meditsinskoy zoologii Instituta epidemiologii i mikrobiologii Akademii meditsinskikh nauk SSSR)

TITLE: The ecology of the water vole (*Arvicola terrestris*) in the floodplains of northern rivers

SOURCE: Zoologicheskiy zhurnal, v. 47 no. 6, 954-958

TOPIC TAGS: biologic ecology, biocenosis, tularemia

ABSTRACT: The distribution of the water vole (*Arvicola terrestris*) around floodplain reservoirs (ponds, etc) in the region of the middle Vychegda River valley and in the Vym River valley, as revealed by study of 164 water voles in 1959, is shown in Figure 1. As can be seen from the figure, the water vole population density in this area is low and colonies are scattered. At the end of the summer considerable migrations

Card 1/3

UDC: 599.323.4:591.5

ACC NR:

AP8023165

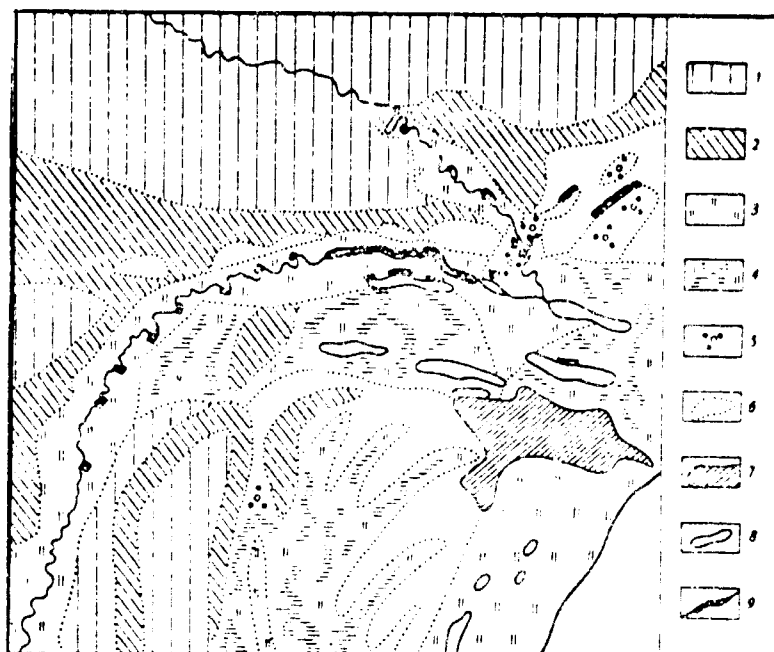


Fig. 1. The distribution of water voles in the experimental area in June

1 - Humid mixed forest; 2 - arid mixed forest; 3 - meadow; 4 - humid meadow; 5 - scrub; 6 - arable fields; 7 - settlements; 8 - lake; 9 - section of shore line populated by water voles

Black circles denote the places where water voles were trapped outside the reservoir area

Card

2/3

ACC NR:

AP8023165

of voles to winter quarters took place, from the middle course of the river to the lower course, and also away from the reservoir area to the forests in some cases. Orig. art. has: 4 tables and 2 figures.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 011

Card

3/3

ACC NR:

AP8020816

SOURCE CODE: UR/0450/68/002/005/0024/0028

AUTHOR: Ladnaya, L. Ya.; Protsenko, Ye. M.

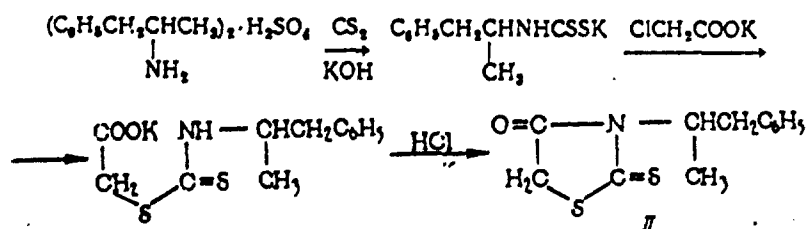
ORG: L'vov Medical Institute (L'vovskiy meditsinskiy institut)

TITLE: Synthesis and study of rhodanines with possible psychostimulating action

SOURCE: Khimiko-farmatsevticheskiy zhurnal, v. 2, no. 5, 1968, 24-28

TOPIC TAGS: pharmaceutical, pharmacodynamics, psychotropic drug effect, psychotropic compound, psychopharmacologic drug effect

ABSTRACT: Rhodanine derivatives with high biological activity were synthesized according to the following scheme:



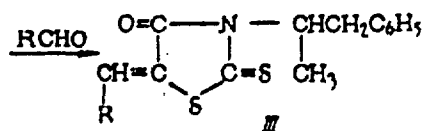
Card

1/3

UDC: 615.741.1-017.85

ACC NR:

AP8020816



Pharmacological study of the derivatives shown in Table 1 revealed that

Table 1. 3-( $\alpha$ -methyl- $\beta$ -phenyl)-ethyl-rhodanine and its 5-derivatives

Compd	R	Yield in %	Mp
II	—	53,6	66—7
III	C <sub>6</sub> H <sub>5</sub>	88,2	102—3
III	n-BrC <sub>6</sub> H <sub>4</sub>	92,0	124—5
III	n-ClC <sub>6</sub> H <sub>4</sub>	86,5	125
III	n-O <sub>2</sub> NC <sub>6</sub> H <sub>4</sub>	89,9	164—5
III	m-O <sub>2</sub> NC <sub>6</sub> H <sub>4</sub>	65,2	162—3
III	o-O <sub>2</sub> NC <sub>6</sub> H <sub>4</sub>	83,8	88—90
III	n-CH <sub>3</sub> OC <sub>6</sub> H <sub>4</sub>	78,4	98—9

Card

2/3

ACC NR:

AP8020816

Table 1. (Cont.)

III	$n\text{-(CH}_2\text{)}_n\text{NC}_6\text{H}_5$	63,2	130--1
III	$n\text{-(C}_2\text{H}_5\text{)}_2\text{NC}_6\text{H}_5$	64,0	122--3
III	$o\text{-HOOC}_6\text{H}_4$	74,5	171--5
III	$3\text{-CH}_3\text{O-4-HOOC}_6\text{H}_3$	85,7	122--3
III	$3,4\text{-(CH}_3\text{O)}_2\text{C}_6\text{H}_3$	83,5	110--11
III	$\text{C}_6\text{H}_5\text{CH=CH}$	82,2	127--8
III	$o\text{-HOOC}_6\text{H}_4$	89,0	117--20
III	$\beta\text{-HOC}_{10}\text{H}_7$	23,5	250
III	9-Anthracene	81,8	122--2,5
III	Furyl	78,8	114--5
IV	--	86,8	272--3
V	--	55,8	195--6

some of these compounds were CNS stimulants. Orig. art. has: 2 tables, and 2 formulas. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 30Oct67/ ORIG REF: 002/ OTH REF: 001

Card

3/3

ACC NR:

AP8022458

SOURCE CODE: UR/0250/68/012/006/0566/0569

AUTHOR: Leonovich, A. L.; Sizonenko, T. P

ORG: Belorussian State Institute of Post-Graduate Medicine (Belorusskiy gosudarstvennyy institut usovershenstvovaniya vrachey); Belorussian Scientific Research Institute of Neurology, Neurosurgery, Physiotherapy and Balneology (Belorusskiy nauchno-issledovatel'skiy institut nevrologii, neyrokhirurgii, fizioterapii i kurortologii)

TITLE: The state of the blood-brain barrier during experimental allergic encephalomyelitis

SOURCE: AN BSSR Doklady, v. 12, no. 6, 1968, 566-569

TOPIC TAGS: hematoencephalitic barrier, encephalomyelitis

ABSTRACT: Study of experimental allergic encephalomyelitis in guinea pigs showed that the permeability of the blood-brain barrier increases in the first days after inoculation, and continues to increase during the incubation period to a maximum in the paralytic period of the illness. DCA (desoxycorticosterone acetate) apparently affects the permeability of the blood-brain barrier, since preliminary administration of this substance was accompanied by high permeability of the blood-brain barrier

Card

1/2

UDC: 577:1:088.91

ACC NR: AP8022458

during the acute stage of encephalomyelitis, especially in the most damaged parts of the brain (lower third of spinal cord, cerebellum, and hypothalamus). ACTH (adrenocorticotrophic hormone) had a desensitizing effect on the increased permeability of the blood-brain barrier, as indicated by the less severe course of experimental encephalomyelitis after preliminary injection of ACTH. P<sup>32</sup> was used to trace changes in the permeability of the blood-brain barrier. Orig. art. has: 3 tables.  
[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 02Dec67/ ORIG REF: 004/ OTH REF: 007

Card 2/2

ACC NR: AP8021668

SOURCE CODE: UR/9079/68/000/002/0061/0065

AUTHOR: Mambetzhumayev, A. M.

ORG: Karakalpak State Pedagogical Institute im. T. G. Shevchenko  
(Karakalpakskiy gospedinstitut)

TITLE: Nesting biology of *Coracias* spp and *Upupa* spp. of the lower Amu-Darya

SOURCE: Uzbekskiy biologicheskiy zhurnal, no. 2, 1968, 61-65

TOPIC TAGS: zoology, ornithology, biologic ecology

ABSTRACT: The nesting biology of some hoopoes and rollers were

Table 1. Stomach contents of young birds

Insect	No. of stomachs examined	Percentage encountered
Solpugida, Arachnoidea	6	40.0
Acrida turrita	1	6.6
Locusta migratoria	2	13.3
Gryllulus desertus Pall.	1	6.6
Acrididae, Orthoptera	1	6.6
Coleoptera	1	13.3
Buprestidae	1	6.6
Tenebrionidae	1	6.6

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UDC: 69.2/9(57).172

ACC NR: AP8021668

Table 2. Diet of the green bee eater

Insect	No. of stom- aches exam- ined	Percentage encountered
Coleoptera	26	21,1
Acrididae	5	4,0
Apidae	3	2,4
Apidae mellifera	1	0,8
Hallipidae	4	3,2
Lepidoptera	2	1,6
Carabridae	2	1,6
Pettolata	1	0,8
Hymenoptera	38	30,8
Hemiptera	3	2,4
Curculionidae	10	8,1
Tanymecus palliatus	1	0,8
Adonata	5	4,0
Sympetrum pedemon- tanum	2	1,6
Tettigonidae	10	8,1
Latodea	2	1,6
Scarabaeidae	2	1,6
Aeschnidae grandis	2	1,6
Aranea	1	0,8
Phytophaga	3	2,4

Card 2/3

ACC NR: AP8021668

investigated in the lower Amu-Darya, Kara-Kalpak region between 1961 to 1967. Details on the diet of these birds is presented in Table 1 and Table 2. Table 1 shows the general diet of young birds, and Table 2, that of the green bee eater. Orig. art. has: 2 tables.

[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: 11Dec67/ ORIG REF: 009

Card 3/3

ACC NR:

AP80233

SOURCE CODE: UR/0390/68/031/003/0319/0321

AUTHOR: Medvedev, B. A.

ORG: Laboratory of Pharmacology /Head—Corresponding member AMN SSSR  
 Prof. M. D. Mashkovskiy/ All-Union Scientific Research Chemical and  
 Pharmaceutical Institute (VNIKhFI) im. S. Ordzhonikidze, Moscow  
 (Laboratoriya farmakologii Vsesoyuznogo nauchno-issledovatel'skogo  
 khimiko-farmatsevticheskogo instituta)

TITLE: Ganglioblocking and curareform properties of 1-(omega-dialkyl  
 aminoalkyl)-3-benzyl-quinuclidine halide methylates

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 3, 1968, 319-321

TOPIC TAGS: bisquaternary ammonium compound, CNS drug effect, curare  
 drug effect, curareform compound, gangliolytic compound

ABSTRACT: The ganglioblocking and curareform properties of the com-  
 pounds shown in Table 1 were determined. Compounds containing three  
 methylene groups between the quaternary nitrogen atoms possess ganglio-  
 blocking properties. Such properties become stronger with increase in  
 number of methylene groups. The most powerful ganglioblocking agent  
 was a pyrrolidine derivative with nine methylene groups between the

Card

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UDC: 615.773.3-017.87+615.778.3-017.853]

ACC NR:

AP8023369

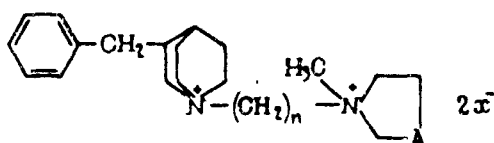


Table 1. Chemical structure and pharmacological activity of  
 1-(omega-dialkylaminoalkyl)-3-benzylquinuclidine halides.

Preparation no.	A	n	X	Narcotized cats			Rabbits	Mice
				Average dose de- creasing eyelid tonus by 50% (+ standard error)	Dose lowering hypo- tension through disruption of vagal transmission	Dose blocking neuro- muscular transmission	Average dose produ- cing the "nodding head" syndrome + standard error	LD50 + standard error
1	-CH <sub>2</sub> CH <sub>2</sub> -	3	Br	0.073 ± 0.008	0.2-0.5	25	12.7 ± 2.5	34 ± 2.5
2	-CH <sub>2</sub> -	3	J	0.085 ± 0.009	0.2-0.5	20	10.3 ± 2.0	46.2 ± 4.3
3	-CH <sub>2</sub> O-	3	Cl	0.039 ± 0.007	0.2	50	15	42 ± 4.5
4	-CH <sub>2</sub> CH <sub>2</sub> -	7	Br	1	2	2	0.49 ± 0.037	5.1 ± 0.7

Card

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ACC NR: AP8023369

Table 1. (Cont.)

5	-CH <sub>2</sub> -	7	Br	0,2-0,5	0,5-1	0,5	0,62±0,05	4,8±0,5
6	-CH <sub>2</sub> CH <sub>2</sub> -	9	Br	1,5	2	5	1,0±0,1	1,8±0,2
7	-CH <sub>2</sub> -	9	J	—	—	0,08	0,75±0,07	0,94±0,1
Hexonium				0,14±0,05	0,2	—	—	—

quaternary nitrogens. Very weak concentrations of preparations 5 and 7 (10 µgm/kg and 0.5 mg/kg) produced depolarizing blockage of neuro-muscular transmission. Orig. art. has: 1 table.

[WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 28Apr67

Card 3/3

ACC NR: AP8020812

SOURCE CODE: UR/0450/68/002/005/0008/0011

AUTHOR: Mel'nikov, N. N.; Khaskin, B. A.; Tuturina, N. N.;  
Pershin, G. N.; Milovanova, S. N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant  
Protection (VNIKhSZR), Moscow (Vsesoyuznyy nauchno-issledovatel'skiy  
institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Quaternary phosphonium 0,0-dialkyldithiophosphates and their  
germistatic and germicidal activity

SOURCE: Khimiko-farmatsevticheskiv zhurnal, v. 2, no. 5, 1958, 8-11

TOPIC TAGS: germicide, bactericide, bacteriostasis, quaternary  
phosphonium compound, pathogenic fungus

ABSTRACT: This article appears in Chemical Factors

Card

1/1

UDC: 615.277.15.015.2

ACC NR: AP8023371

SOURCE CODE: UR/0390/68/031/003/0342/0344

AUTHOR: Merkulov, M. F. (Professor; Head); Uteshev, B. S.; Gladkova, N. Ye.; Pinegin, B. V.

ORG: Department of Pharmacology/Head—Prof. M. F. Merkulov/, Second Moscow Medical Institute im. N. I. Pirogov (Kafedra farmakologii II Moskovskogo meditsinskogo instituta); Department of Microbiology/Head—Acting Member AMN SSSR Prof. B. D. Timakov/ Second Moscow Medical Institute im. N. I. Pirogov (Kafedra mikrobiologii II Moskovskogo meditsinskogo instituta)

TITLE: The effect of imuran on the content of antibody-forming cells in mouse spleens during primary immunological response

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 3, 1968, 342-344

TOPIC TAGS: antibody, immunogenesis, lymphatic system, lymphocyte

ABSTRACT: Intraperitoneal injection of mice with imuran in a dose of 30 mg/kg for 8 days or 60 mg/kg for 9 days decreased the content of antibody-forming cells in the spleen 39% and 83%, respectively. Sheep erythrocytes were used as antigen. Imuran doses equivalent to 20 and 40 mg/kg of 6-mercaptopurine produced a specific inhibition of immune

Card 1/2

UDC: 615.761.6-092:612.411.017.1

ACC NR: AP8023371

response. Hypoplasia of lymphoid tissue was slight, as indicated by weights of thymus and spleen and the total number of lymphocytes. Apparently imuran inhibits a clone of lymphoid cells immunologically competent with respect to sheep erythrocytes. Orig. art. has: 1 figure and 1 table. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 06Dec67/ ORIG REF: 002/ OTH REF: 005

Card 2/2

ACC NR

AT8022707

SOURCE CODE: UR/0000/68/000/000/0047/0052

AUTHOR: Migalin, V. I.

ORG: L'vov Institute of Epidemiology, Microbiology, and Hygiene  
(L'vovskiy institut epidemiologii, mikrobiologii i gigiyeny)

TITLE: Immune response of the body during primary combined immunization  
and subsequent revaccination against tetanus

SOURCE: Kiyev. Institut epidemiologii, mikrobiologii i parazitologii.  
Voprosy immunologii (Problems of immunology) v.3, Kiev, 1968, 47-52

TOPIC TAGS: human ailment, tetanus, tetanus toxoid, immunogenesis

ABSTRACT: For treatment of tetanus a 0.5 ml dose of toxin is given  
followed by 3000 units of diaferu-3 antitetanus serum within five days.  
Immune response in animals was observed at dose intervals of 30 min; and  
4, 7, and 10 days. An intense plasmacytic reaction was observed at all  
dose intervals and inoculation sites. Booster shots increased the  
plasmacytic reaction and antibody level, and thus is highly recommended.  
Orig. art. has: 2 tables. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none

Card

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UDC: 612.017-092

ACC NR

AP8022418

SOURCE CODE: UR/0346/68/000/006/0041/0042

AUTHOR: Mikhal'skiy, G. A. (Candidate of veterinary sciences)

ORG: All-Union Institute of Experimental Veterinary Science (Vsesoyuznyy  
institut eksperimental'noy veterinarii)

TITLE: Simultaneous immunization of fowl against pseudoplague, fowl pox,  
and pasteurellosis

SOURCE: Veterinariya, no. 6, 1968, 41-42

TOPIC TAGS: pseudoplague, pasteurellosis, vaccination reaction, fowl pox  
vaccine, animal disease therapeutics

ABSTRACT: Experimental and large-scale tests of simultaneous vaccination  
of chicks against pseudoplague, fowl pox, and pasteurellosis conducted in  
1966 showed that simultaneous vaccination created immunity to all three  
diseases in the same periods as individual vaccinations. Vaccination  
reactions were not additive for the three vaccines. A virus vaccine  
from strain H was used against pseudoplague, an avirulent Pasteur vaccinal  
strain against pasteurellosis, and a virus vaccine from the New Jersey  
strain against fowl pox. All were administered according to standard

Card

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UDC: 619:[616.988.73+616.988.13+  
+616.981.45]-085.37:636.52/.58

ACC NR: AP8022418

instructions. A decrease in total protein content was noted in the first nine days after triple immunization with subsequent normalization. Anti-hemagglutinine appeared in the blood of vaccinated chicks on the seventh day after vaccination, and virus-neutralizing antibodies to pseudoplague virus on the fifth day (both normal periods for single vaccination).  
[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8022403

SOURCE CODE: UR/0242/68/000/005/0030/0033

AUTHOR: Mil'man, M. Sh.; Subkhankulova, F. B.

ORG: Uzbekh Scientific Research Institute of Roentgenology, Radiology, and Oncology/ Director--Honored Scientist Prof. D. M. Abduraculov (Uzbekskiy nauchno-issledovatel'skiy institut rentgenologii, radiologii i onkologii)

TITLE: Change in the immunological specificity of proteins in animal organs under the influence of pesticides

SOURCE: Meditsinskiy zhurnal Uzbekistana, no. 5, 1968, 30-33

TOXIC TAGS: insecticide intoxication, immunology, anaphylaxis

ABSTRACT: Tests with guinea pigs and mice showed that pesticides can change the immunological specificity of organic proteins by coupling with the proteins and disrupting tissue metabolism. Antigen extracts prepared from livers of mice injected with 10 mg/kg of aldrin or thiometon/ O-O-dimethyl S-2-(ethylmercapto)ethyl dithiophosphate were used to sensitize guinea pigs. Anaphylactic shock was induced by injection of 4 mg of antigen, and varied in severity depending on the antigens used for sensitization, desensitization, and final injection. For example, severe

Card 1/2

ACC NR:

AP8022403

anaphylactic shock was induced in guinea pigs sensitized with liver extract from aldrin-inoculated mice, desensitized with extract from healthy mice, and then given a combined injection of healthy mouse extract and thiometon. Results of these experiments show that change in the immunological specificity of liver proteins is caused by the presence in their molecules of thiometon or its derivatives. Orig. art. has: 1 table. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 15Jan65/ ORIG REF: 002

Card

2/2

ACC NR:

AT8019444

SOURCE CODE: UR/3355/65/013/000/0141/0148

AUTHOR: Moshkevich, V. S.; Kasymova, Kh. A.

ORG: none

TITLE: The condition of the ear, nose, and larynx in people inoculated against brucellosis outside infectious foci

SOURCE: AMN SSSR. Kazakhskiy institut krayevoy patologii. Trudy, v. 13, 1965. Brutsel'ez v Kazakhstane (Brucellosis in Kazakhstan), 141-148

TOPIC TAGS: brucellosis, bacterial disease vaccine, otolaryngology

ABSTRACT: Inoculation of healthy people with live brucellosis vaccines B-19 and 104-M somewhat increased the frequency of angina in patients with a previous history of angina and caused vestibular shifts, including shortening the time of postrotational nystagmus, and more pronounced oscillations in pulse and blood pressure after rotation tests, as compared with uninoculated controls. These changes are considered functional shifts in vestibular-autonomic reflexes. Tests with large numbers of people indicate that subcutaneous vaccination of young, healthy people with live brucellosis vaccines does not produce pathological changes in ear, nose, and larynx. However, inoculation with B-19 vaccine of people with chronic tonsillitis, caused prolonged intoxication, characterized by

Card

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ACC NR: AT8019444

weakness, increased perspiration, pains in the back and muscles, changes in blood, increased temperature, etc. Inoculation of people with chronic tonsillitis should only be conducted after determination of the allergic state of the individual with skin tests. Orig. art. has: 4 tables.  
[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002

Cord 2/2

ACC NR: AT8021813 SOURCE CODE: UR/0000/67/000/000/0439/0441

AUTHOR: Mosin, V. I.

ORG: KazNII of Forestry, Alma-Ata (KazNII lesnogo khozyaystva)

TITLE: Metabolism in pine seeds treated with fungicides

SOURCE: Konferentsiya biokhimikov respublik Sredney Azii i Kazakhstana, 1st. Alma-Ata, 1966. Trudy (Transactions of the conference of biochemists of the Republics of Central Asia and Kazakhstan), Tashkent, Izd-vo "Fan," 1967, 439-441

TOPIC TAGS: fungicide, plant metabolic effect

ABSTRACT: Analysis of metabolic shifts in pine seeds treated with TKhFM (copper 2,4,5-trichlorophenoxide), GKHB (hexachlorobutanes), TMTD (dimethylthiocarbamyl disulfide) and granozan (ethylmercurichloride) showed that these fungicides in optimum doses did not directly affect the metabolism of dry pine seeds and therefore did not stimulate growth of young plants (as literature data had claimed). Fungicides used in this manner have a phytocidal effect only. Doses of 1-2 g/kg for Granozan, 3-4 g/kg for TMTD and GKHB, and 8-12 g/kg for TKhFM were used. In these doses fungicides did not change fat content, carbohydrate,

Cord 1/2

ACC NR: AT8021813

or protein metabolism. Sharp variations in catalase activity observed in some experimental variants were probably due to the action of fungicide components on cellular protoplasm during soaking of seeds. Orig. art. has: 3 tables. [WA-50; CBE No. 35][JS]

SUE CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8022419 SOURCE CODE: UR/0346/68/000/006/0043/0045

AUTHOR: Nikol'skiy, S. N. (Professor)

ORG: Stavropol Agricultural Institute (Stavropol'skiy sel'skokhozyaystvennyy institut)

TITLE: Accomplishments and tasks of veterinary acarontomology

SOURCE: Veterinariya, no. 6, 1968, 43-45

TOPIC TAGS: economic entomology, acarology, tick, veterinary science, parasitology

ABSTRACT: Past achievements and current programs by veterinary institutes in tick control among livestock all over the Soviet Union are reviewed. In Central Asian republics, *Hyalomma* control is stressed. The zonal distribution of harmful ticks has been determined, which aids in tick control and has reduced the incidence of tickborne parasites among farm animals. The principal problem remaining to veterinarians is to eradicate tickborne diseases affecting both animals and man (tularemia, tickborne encephalitis and assorted rickettsioses). Research on avian ticks is expected to cut losses on poultry farms. Special emphasis is placed on anti-argus and anti-ixodid research. The article includes a list of the

Card 1/2

UDC: 619:[616.995.42+616.995.7].001.5

ACC NR: AP8022419

principal veterinary research laboratories and the personnel heading  
their principal research efforts. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8020653

SOURCE CODE: UR/0433/68/000/005/0027/0029

AUTHOR: Podkopy, I. Ye. (Candidate of biological sciences)

ORG: Ukrainian Institute of Irrigation Technology, Kherson (Ukrainskiy  
institut oroshayemogo zemledeliya)

TITLE: Rice pests

SOURCE: Zashchita rasteniy, no. 5, 1968, 27-29

TOPIC TAGS: plant disease agent, rice pest, plant protection, agriculture  
science

ABSTRACT: Rice pests collected at experimental farms in several rice  
growing areas included the following species: *Melanotus fusciceps*,  
*Agriotes lineatus*, *Gryllotalpa gryllotalpa*, *Prophryganea pagetana*,  
*Limnophilus griseus*, and *L. stigma* (seed and shoot pests); *Anomia corni*  
and *Hydronomus alistatus* (rootlet pests); various ostracods; *Pales corni-*  
*oia*, *tipula lateralis*, and other pests which are most serious when in  
the larval stages; flying insects such as *Ephydra macellaria*; *Apus conoma-*  
*formis*; *Tendipes stratiotes* *T. plumosus* and related species; and leaf  
pests such as *Paroporya stratiotata*, *Nymphula* spp., *Lenia melanopus*,  
*Hydrella griseola*, *Agromyza*, *Macrosteles laevis*, *Schizaphis graminum*,

Card

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UDC: 632.9:633.183

ACC NR:

AP8020653

*Haplothrips aculeatus*, *Leuconia unipunctata*, *Plusia festuoca*, *Tetranychus viridissima*, *Eurygaster integriceps*, and *Oria musculosa*. A description of the type of damage caused by each species is given. Orig. art. has: 6 figures. [WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none

Cord

2/2

ACC NR:

AP8022425

SOURCE CODE: UR/0346/68/000/006/0091/0094

AUTHOR: Polyakov, V. A. (Candidate of veterinary sciences)

ORG: Scientific Research Institute of Agriculture in the Far North  
(Nauchno-issledovatel'skiy institut sel'skogo khozyaystva Kraynego Severa)

TITLE: Protecting reindeer from gadflies

SOURCE: Veterinariya, no. 6, 1968, 91-94

TOPIC TAGS: veterinary science, animal disease, reindeer, disease carrying insect

ABSTRACT: Spraying reindeer herds using a "Sever" spray boom has been the most effective means of lowering infestation by gadflies. Only regular spraying of herds keeps the biting insect pests at a consistently low level. Usually 15-20 treatments per summer with 4% DDT emulsion, (25% DDT, 25% HHH) hexachlorane aerosols, chlorophos, or other organophosphorus compounds is sufficient. DDVP plus Dibrom is also effective and safe in the concentrations used (0.5%). Benzimine and sodium sulfite has both insecticidal and repellent effects. The best time for treatments is when insects are most dense, which varies with the

Cord

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UDC: 619:614.449.57:636.294

ACC NR:

AP8022425

locality. The formula for calculating the insecticidal activity of the treatments is

$$K_1 = 1 - \frac{A_p}{A_d}$$

where  $K_1$  is the coefficient of insecticidal activity,  $A_p$  is the number of gadflies after treatment and  $A_d$  is the number before treatment.

Orig. art. has: 1 figure.

[WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 00

Card

2/2

ACC NR:

AP8020647

SOURCE CODE: UR/0433/68/000/005/0014/0015

AUTHOR: Rudnev, D. F. (Doctor of biological sciences; Professor);  
Basun, P. A. (Junior research associate)

ORG: UIZR(UIZR)

TITLE: Combatting garden pests

SOURCE: Zashchita rasteniy, no. 5, 1968, 14-15

TOPIC TAGS: pest control agent, economic entomology, plant disease control, insecticide application

ABSTRACT: Sevin, fozalon, cidial, rogor, metaphos, chlorophos, and trichlorometaphos-3 are more effective than DDT in controlling the codling moth. On some sovkhoses, losses from fruit damage by insects approached 15-20,000 rubles a year before insecticide treatments started. After spraying, the average number of pests/tree dropped from 89 to 4.6, and, in some heavily infested orchards, from 570-1400 to 4-6. Tree health and fruit yield improved greatly within 2 yr. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none

Card

1/1

UDC: 632.9:634.1/.7

ACC NR: AP8023223

SOURCE CODE: UR/0020/68/180/003/0726/0729

AUTHOR: Salganik, R. I.

ORG: Institute of Cytology and Genetics, Siberian Branch, Academy of Sciences, SSSR (Institut tsitologii i genetiki Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: The possibility of controlling mutation by using chemical mutagens reacting primarily with single-strand DNA, with local changes in the state of cellular DNA

SOURCE: AN SSSR. Doklady, v. 180, no. 3, 1968, 726-729

TOPIC TAGS: mutagen, bacteria DNA, mutagen effect

ABSTRACT: The effect of chemical mutagens on native and denatured DNA was studied in auxotrophic mutants of a prototrophic strain of *E. coli* B under the joint influence of UV rays (100 and 200 erg/mm<sup>2</sup>) and hydroxylamine (0.3 M solution). Hydroxylamine produces auxotrophs deficient in phenylalanine and alanine. Irradiation of hydroxylamine-treated cultures with a nonmutagenic dose of UV rays (100 erg/mm<sup>2</sup>) expanded the spectrum of auxotrophic mutants to include mutants deficient in proline and glycine. Genetic studies showed that introduction of mutagens in different

Card 1/2

UDC: 575.24+576.8+577.1

ACC NR: AP8023223

periods of the lag-phase of a synchronous *E. coli* culture caused different and fairly definite mutations. For example, a 15-min incubation of cells with formaldehyde at the beginning of the lag-phase produced mostly proline-deficient mutants. Incubation of bacteria in mid-lag-phase produced mostly purine and histidine-deficient mutants. Incubation with formaldehyde at the end of the lag phase increased the number of histidine-deficient mutants to 69% and decreased the number of purine-deficient mutants. Similar mutation effects were observed with hydroxylamine. Orig. art. has: 2 tables and 1 figure. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 15Jan68/ ORIG REF: 009/ OTH REF: 007

Card 2/2

ACC NR:

AP8022431

SOURCE CODE: UR/0346/68/000/006/0121/0122

AUTHOR: Savchenko, P. Ye.

ORG: none

TITLE: Second scientific and production conference of regional veterinary specialists held in Chernigov

SOURCE: Veterinariya, no. 6, 1968, 121-122

TOPIC TAGS: veterinary conference, animal disease, tuberculosis, lupine, toxin effect, epizootiology, epidemiology conference

ABSTRACT: Subjects discussed at this conference included: sanitary measures necessary for the elimination of swine plague and brucellosis, antiparasite programs, therapy of atrophic rhinitis of swine and other diseases, elimination of cattle and fowl tuberculosis, treatment of lupine poisoning, atypical cases of rabies occurring in cattle in the Chernigov area, and epizootic control programs in other regions.

[WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none

Card

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ACC NR:

AT8020445

SOURCE CODE: UR/0000/67/000/000/0119/0125

AUTHOR: Sergeyeva, L. I.

ORG: none

TITLE: Investigation of certain aspects of the mechanism of the effects of bee venom on synaptic transmission in ganglia

SOURCE: Gorkiy. Universitet. Uchenyye zapiski, no. 82, 1967. Yady pchel i zmey v biologii i meditsine (Bee and snake venom in biology and medicine), 119-125

TOPIC TAGS: bee venom, toxin effect, nervous system, nervous system drug, ganglioblocking agent

ABSTRACT: The action mechanism of bee venom on the sympathetic ganglia, and the role of ATP and cysteine on cholinoreactive systems was discussed. Experiments were conducted on narcotized cats who had received doses of urethane sufficient for anesthesia but which did not block ganglionic transmission. The first series of experiments showed that physostigmine (0.4 mg/kg) did not weaken the blocking action of the venom; however, a depression was observed when it was given simultaneously with or before injection of bee venom. Precise response varied with the animal, since they displayed varying susceptibility to the venom. In the second series

Card

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of experiments, the effect of ATP on disruption of synaptic transmission caused by bee venom was determined. Very dilute ( $1:10^4$ — $1.5:10^3$ ) solutions of bee venom diminish eye blink amplitude to almost complete extinction of the response, and 3—4 mg/kg doses of ATP did not affect such blockage. However, when  $1:10^5$  dilutions of venom were involved, ATP treatment led to recovery of normal function. The third series of experiments was designed to test the effects of a compound containing SH-groups (cysteine) in 2—10 mg/kg doses on impulse transmission in ganglia blocked by bee venom. Cysteine neither inhibits blockage in the concentrations tested, alters the acetylcholine-cholinesterase reaction, nor affects cholinesterase itself. Blockage of SH-groups appears to be a principal factor in the inhibition of ganglionic transmission. Orig. art. has: 1 figure. [WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 003

Card

2/2

ACC NR:

AP8023941

SOURCE CODE: UR/0218/68/033/003/0561/0569

AUTHOR: Shemanova, G. F.; Shakhanina, K. L.; Vlasova, Ye. V.; Borisova, O. K.; Bakirov, R. D.

ORG: Institute of Medical and Biological Problems, MZ SSSR (Institut mediko-biologicheskikh problem MZ SSSR); Institute of Epidemiology and Microbiology im. N. F. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Lecithinase formation in *Clostridium perfringens* type A

SOURCE: Biokhimiya, v. 33, no. 3, 1968, 561-569

TOPIC TAGS: lecithinase, enzyme catalysis, enzymatic activity, *Clostridium perfringens*, enzyme biosynthesis

ABSTRACT: The possible presence of a high-molecular precursor of *Cl. perfringens* A lecithinase C was investigated. Enzymatic and toxicity tests failed to reveal intracellular enzyme. Immunological tests revealed a protein possessing lecithinase-like properties in the hyaloplasm of the organisms. This indicates that the enzyme is synthesized *de novo* without high-molecular precursors. Lecithinase is synthesized in the exponential growth phase (6—9-hr cultures) and comparatively quickly since it is absent in 24-hr cultures. In one experiment, intracellular

Card

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UDC: 577.153.211

ACC NR: AP8023941

enzyme was detected in the ribosomes, but contamination of the preparation by hyaloplasm cannot be ruled out. The enzyme is probably synthesized at specialized synthetic sites. Orig. art. has: 2 tables and 2 figures. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 12Oct67/ ORIG REF: 019

Card 2/2

ACC NR: AP8024070 SOURCE CODE: UR/0399/68/000/006/0113/0116

AUTHOR: Shor, E. M. (Docent); Khaimzon, B. I.

ORG: Department of Infectious Diseases/Head—Associate Professor E. M. Shor/, Novo-kuznetsk Institute of Post-Graduate Medicine (Kafedra infektsionnykh bolezney Novo-Kuznetskogo instituta usovershenstvovaniya vrachey)

TITLE: Differential diagnosis between tickborne encephalitis and non-icteric leptospirosis

SOURCE: Sovetskaya meditsina, no. 6, 1968, 113-116

TOPIC TAGS: encephalitis, leptospirosis

ABSTRACT: Tickborne encephalitis and nonicteric leptospirosis endemic to Kemerovo oblast have some similar epidemiological features and general clinical symptoms, making differential diagnosis difficult (especially between the meningeal form of tickborne encephalitis and nonicteric leptospirosis). A three-year study of 100 patients, 58 with meningeal tickborne encephalitis, and 42 with meningeal nonicteric leptospirosis, showed that the distinguishing symptoms of leptospirosis are pain in the gastrocnemius muscles, hyperemia of the mouth, and two-or three-peak

Card 1/2 UDC: 616.988.25-022.935-079.4:616.986.724

ACC NR:

AP8024070

fevers. Tickborne encephalitis is characterized by a more prolonged high temperature. Serological studies (complement-fixation test, hemagglutination-inhibition test) are required to distinguish meningeal forms of tickborne encephalitis from leptospirosis during the climax of the disease and during convalescence, since neurological shifts are identical in both diseases. Orig. art. has: 1 figure. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 014

Card

2/2

ACC NR:

AT8021476

SOURCE CODE: UR/0000/67/000/000/0072/0076

AUTHOR: Shvartsman, P. Ya.; Kuznetsov, V. M.

ORG: none

TITLE: The fractionated effect of ethylenimine and the dependence of the frequency of mutations on the mutagen dose

SOURCE: Leningrad. Universitet. Issledovaniya po genetike (Research in genetics); sbornik, no. 3. Leningrad, 1967, 72-76

TOPIC TAGS: mutagen, chemical mutagen, biologic mutation

ABSTRACT: The effect of continuous and fractionated doses of ethylenimine on 3-day old male fruit flies (*Drosophila melanogaster*) of the radiosensitive wild-type strain P-86 was studied by placing flies in exsiccators filled with ethylenimine vapor. A linear dependence of the frequency of sex-linked recessive lethal mutations on the dose of ethylenimine (measured by the time of exposure to mutagen vapors) was established. No dependence of frequency of mutations on mutagen concentration was observed in the concentration range from 0.25—2% ethylenimine. With mutagen concentrations of 2, 1, and 0.5%, the frequency of mutations was higher with fractionated doses (with intervals) than with a single

Card

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ACC NR: AT8021476

continuous exposure to mutagen. This difference was not noted for a  
mutagen concentration of 0.25%. Orig. art. has: 4 tables and 1 figure.  
[WA-50; CBE No. 35][JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 005

Card 2/2

ACC NR: AP8020814

SOURCE CODE: UR/0450/68/002/005/0015/0018

AUTHOR: Sidenko, Z. S.; Limanov, V. Ye.; Skvortsova, Ye. K.;  
Dziomko, V. P.

ORG: All-Union Scientific Research Institute of Chemical Reagents and  
Highly Purified Chemicals (Vsesoyuznyy nauchno-issledovatel'skiy  
institut khimicheskikh reaktivov i osobo chistikh khimicheskikh  
rechestv); Central Scientific Research Disinfection Institute, Moscow  
(Tsentral'nyy nauchno-issledovatel'skiy dezinfektionnyy institut)

TITLE: Synthesis and antibacterial activity of certain bis-ammonium  
compounds

SOURCE: Khimiko-farmatsevticheskiy zhurnal, v. 2, no. 5, 1968, 15-18

TOPIC TAGS: quaternary ammonium compound, bactericide, bacteriostasis

ABSTRACT: This article appears in Chemical Factors

Card

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UDC: 615.777.12-012.5

ACC NR: AP8023681

SOURCE CODE: UR/0020/68/179/006/1473/1475

AUTHOR: Slepyan, E. I.

ORG: Botanical Institute im. V. L. Komarov, Academy of Sciences, SSSR  
(Botanicheskiy institut Akademii nauk SSSR)

TITLE: The callus stage of gall-formation caused by *Ustilago maydis* on corn leaves

SOURCE: AN SSSR. Doklady, v. 179, no. 6, 1968, 1473-1475

TOPIC TAGS: plant fungus, plant injury

ABSTRACT: The morphological changes in leaf tissue associated with the development of calluses caused by the agent of white blister or maize smut, *Ustilago maydis*, are characteristic of all types of gall-formation in plant diseases, regardless of etiology. Electron micrographs showed that parenchymal cells in calluses become somewhat hypertrophic during gall-formation. Cells in calluses were straight-walled, close to isodiametric in shape, and different in structure from normal chlorenchyma cells. Cells in damaged mesophyll retained normal round or ellipsoid shape. Degeneration of chloroplasts was common in both callus parenchyma and parenchyma of damaged mesophyll. Hypertrophy of the nucleus and nucleolus was often observed, and some cells showed 2-4 nuclei or

Card

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ACC NR: AP8023681

2-5 nucleoli. These changes occur both in the prodromal period of development of white blister of corn, and also in the initial stages of formation of many other types of galls. Orig. art. has: 1 figure.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 16Jan68/ ORIG REF: 004/ OTH REF: 006

Card

2/2

ACC NR: AP8022444

SOURCE CODE: UR/0402/68/000/003/0368/0372

AUTHOR: Sominina, A, A.

ORG: All-Union Scientific Research Influenza Institute, Leningrad  
(Vsesoyuznyy nauchno-issledovatel'skiy institut grippa)

TITLE: Determining the number of fluorescent cells in order to study periods of adsorption and penetration of parainfluenza virus type 2 into sensitive cells

SOURCE: Voprosy virusologii, no. 3, 1968, 368-372

TOPIC TAGS: fluorescence microscopy, influenza, virus viability, virus reproduction

ABSTRACT: The number of damaged tissue-culture cells was shown to depend on the size of the infective viral dose when the method of counting cells with specific fluorescence at different stages of experimental parainfluenza infection was used. The main route of spread of parainfluenza infection in cell culture appears to be the extracellular fluid, since immune serum completely inhibited the development of virus in tissue culture. The possibility of using quantitative determination of fluorescing cells to establish the periods of adsorption and penetration of

Cord 1/2

JDC: 576.858.75.097.8.093  
.35.377.3:576.8.073.4

ACC NR: AP8022444

parainfluenza virus into the cell was demonstrated. Adsorption and penetration indices in these studies differed by a factor of two, both in time and in the number of fluorescing cells. Parainfluenza type 2 virus reproduced in trypsinized guinea pig kidney cultures and dog kidney cultures. Orig. art. has: 6 figures and 1 table.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 16Jun67/ ORIG REF: 016

Cord 2/2

ACC NR: AP8022402

SOURCE CODE: UR/0242/68/000/005/0029/0030

AUTHOR: Subkhankulova, F. B.

ORG: Uzbek Institute of Zoology and Parasitology (Uzbekskiy institut zoologii i parazitologii)

TITLE: The effect of pesticides on the number of immunologically competent cells and the hemagglutinin titer

SOURCE: Meditsinskiy zhurnal Uzbekistana, no. 5, 1968, 29-30

TOPIC TAGS: pesticide, antibody, immunology, agglutination

ABSTRACT: Thiometon [O-O-dimethyl S-2-(ethylmercapto)ethyl dithiophosphate] simultaneously decreased the number of antibody-forming cells in the spleen of mice and the agglutinin titer in the serum of mice immunized with sheep erythrocytes. Mice were poisoned with thiometon orally or intraperitoneally for 3, 7, or 15 days. Preliminary results indicate that the effect on antibody-forming spleen cells was the same for both routes of administration. The number of antibody-forming cells decreased 50% (as compared with controls) in mice given 25 mg/kg of thiometon for 4 days, while the agglutinin titer dropped from 1:1351 to 1:518. A dose of

Card 1/2

ACC NR: AP8022402

35 mg/kg for 7 days decreased the number of antibody-forming cells threefold and dropped the agglutinin titer to 1:704. Analogous data were obtained in tests with rogor [O-O-dimethyl-S-N-methylcarbamidomethyl dithiophosphate]. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: 26Jan68

Card

ACC NR:

AP8022377

SOURCE CODE: BU/0019/68/000/002/0180/0187

AUTHOR: Surbova, St.; Khristova, T.; Tsanev, Iv.; Golovinska, V.

ORG: Scientific Research Institute of Epidemiology and Microbiology,  
Sofia /Director—Senior Scientific Associate S. Rangelova/(Nauchno-  
izsledovatel'ski institut po epidemiologiya i mikrobiologiya)

TITLE: Compounds for controlling the Black Sea mosquito

SOURCE: Epidemiologiya, mikrobiologiya i infektsiozni bolesti, no. 2,  
1968, 180-187

TOPIC TAGS: organophosphorus insecticide, disease vector, mosquito,  
insecticide application, insecticide intoxication

ABSTRACT: Various larvicides were tested for their effectiveness against  
*Culex pipiens*, *Aedes caspius*, and *Anopheles maculipennis* inhabiting water-  
ways in the vicinity of Sofia. The mixtures tested were: negufon  
(1 ppm), diazinon (25 % emulsion), dichlorophos, and phenthion (2 %), all  
organophosphorous compounds; also, their effects were compared to those  
of lindane and DDT. These compounds were too poisonous in effective  
concentrations to be recommended since they were harmful to other  
organisms. Orig. art. has: 2 tables. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 01Jan68/ ORIG REF: 008/ OTH REF: 005  
1/1

Card

ACC NR:

AP8022432

SOURCE CODE: UR/0402/68/000/003/0259/0268

AUTHOR: Tikhonenko, T. I.; Galegov, G. A.; Zhdanov, V. M.

ORG: Institute of Virology im. D. I. Ivanovskiy, AMN SSSR, Moscow  
(Institut virusologii AMN SSSR)

TITLE: Biochemistry of viruses and prospects for chemotherapy of viral  
infections

SOURCE: Voprosy virusologii, no. 3, 1968, 259-268

TOPIC TAGS: virus, disease therapeutics, antiviral agent, foot and mouth  
disease vaccine, antimetabolite, coagulase, Actinomycin D antibiotic,  
rabies vaccine / (U)Simo vaccine

ABSTRACT: The nitrogenous base composition of an infected cell differs  
from that of a healthy cell, and modern research is revealing more and  
more anomalies. Virus disease chemotherapy relies on such differences  
and on interfering with viral biosynthesis once the virus penetrates the  
cell. Virus inhibitors are analogs of common nitrogenous bases or of  
completely unrelated compounds. The base-analog antimetabolites are  
incorporated into the DNA or RNA of the viral nucleic acid or protein,  
and the inhibitors are not. Benzimidazol and its derivatives, guanidine,

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UDC: 576.858.095.3+616.988-085.7](047)

ACC NR: AP8022432

and  $\alpha$ -oxybenzyl-benzimidazol are effective against picornaviruses such as poliomyelitis and Coxsackie. Isctin- $\beta$ -thiosemicarbazone inhibits poxvirus replication. Among the analog agents are haloid derivatives of thymidine: 5-bromo- and 5-iododeoxyuridine which inhibit DNA viruses such as *Herpes simplex* and vaccinia. These analogs are nontoxic and therapeutically useful in man and animals. Since early protein synthesis is necessary for the subsequent replication of the invading virus, antibiotics which inhibit protein synthesis have been effective therapeutic agents. Pyromycin and chloramphenicol alone or with such analogs as p-fluorophenylalanine, ethionine and  $\beta$ -phenylserine are very successful *in vitro* but minimally so *in vivo*, since they are toxic to man and animals in effective concentrations. Some success with virus-specific m-RNA has been reported. Actinomycin D inhibits template synthesis but does not distinguish between virus and cell protein synthesis and is therefore toxic to animals. Some early proteins function as enzymes, and enzymes inhibit them. It is theoretically possible to give enzymes that inhibit phosphodiesterase, RNA polymerase, and others. These enzymes would be virus-specific. Treatment with interferon inhibits various kinases necessary for DNA synthesis. Artificially synthesized nucleotides have slowed latent stages of virus synthesis. The study of enzymes absent in the normal cell is of special interest in that some of them inhibit some parts of but do not destroy cellular metabolism. Enzymes

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ACC NR: AP8022432

in single strand RNA viruses are most important. Virus-specific antagonists of RNA polymerase have been tested therapeutically. Benzimidazoles are not strict antimetabolites but act by inhibiting RNA polymerase. Radioactive tracer studies showed that the compounds bind the enzyme in the ribosome. They are effective only at the lag phase of viral synthesis and their presence earlier or later does not affect virus replication. Inhibition of virus or viral RNA produce a drop in cytopathic effect in tissue culture. However, neither guanidine nor benzimidazole repress intracellular protein synthesis by viruses. Effects are so specific that differences in species and serotypes alter experimental results. It is feared that the extensive use of such compounds will encourage the development of not only resistant strains but also strains that are dependent on the compounds. Already resistant and dependent picornaviruses have been isolated from animals treated with benzimidazol and guanidine. The replicative form of RNA is extremely resistant to heat and cellular RNAase. Actinomycin D is effective only against RNA viruses. The reason for this is unknown since Actinomycin D is thought to interfere with template synthesis involving RNA. Iododeoxyuridine and trifluoromethyldeoxyuridine have been effective at curing keratitis and some *Herpes* infections. Success against adenoviruses has been reported by the concentrations of iododeoxyuridine required to poison the genetic apparatus of the host cell. Trifluoromethyldeoxyuridine is

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ACC NR:

AP8022432

effective in nontoxic concentrations. Glutamine can accelerate growth of picorna and arboviruses and the inclusion of a glutamine analog can slow virus synthesis. Glutamic acid gamma-hydrazide can inhibit virus synthesis in nontoxic concentrations. Treatments of infected cell cultures with normal RNA have lowered cytopathic effect and virus titers. Thiosemicarbazone derivatives interfere with protein synthesis. A derivative of isatin-beta-thiosemicarbazine with a methyl or ethyl group on the N<sub>1</sub> atom, known as "Marboran" is more effective at treating poxviruses than serum therapy. Other inhibitors act by interfering with the interact of virus and cell surface by preventing the adsorption of the virus particle to the surface, its penetration of the cell membrane and/or the release of the viral nucleic acids into the cell. Preparations that alter the cell membrane and those that affect the virus have been sought. A synthetic compound that inhibits viral neuraminidase is Simo (2-phenyl-8-chlorooctyl-4-keto-2,3,5,6-methyl-hydroxazine), an analog of neuraminic acid. It is effective against influenza virus but is too toxic for therapeutic use; however, some of its derivatives may be more useful. Amantadine derivatives interfere with the cell membrane and prevent the transport of virus across it. This trimer is effective against certain A, A<sub>1</sub>, A<sub>2</sub>, C, and Sendai viruses, and is ineffective against B viruses as well as some A and C viruses thus demonstrating its narrow spectrum; 2-aminoadamantane is effective against more strains than the parent compound.

[WA-50; CBE No. 35][AP]

SUB CODE: 06/ SUBM DATE: 05Apr67

Card

4/4

ACC NR:

AP8023143

SOURCE CODE: UR/0392/68/000/003/0042/0043

AUTHOR: Timina, V. P.

ORG: Department of Infectious Diseases Head--Prof. K. V. Bunin First Moscow Order of Lenin and Order of the Red Banner of Labor Medical Institute im. I. M. Sechenov (Kafedra infektsionnykh bolezney I Moskovskogo ordena Lenina i ordena Trugovogo Krasnogo Znameni meditsinskogo instituta)

TITLE: Significance of autoimmune processes in the development of leucopenia and thrombocytopenia during typhoid therapy with vaccines and levomycetin

SOURCE: Kazanskiy meditsinskiy zhurnal, no. 3, 1968, 42-43

TOPIC TAGS: immunogenesis, autoimmunity, typhoid fever, typhoid vaccine, antibiotic therapeutics, levomycetin

ABSTRACT: An autoimmunity process takes place during the pathogenesis of leucopenia and thrombocytopenia in typhoid fever. Autoantibodies to thrombocytes and leucocytes are detectable in the blood in early stages of the disease. The first injection of typhoid-paratyphoid divaccine (type B) generates these antibodies in high titers. The second injection maintains the high titers with a corresponding decrease in the number of

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UDC: 616.927-615.7

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ACC NR:

AP8023143

formative cells in the peripheral blood. After 2 or 3 weeks the blood contains a normal number of leucocytes and thrombocytes and the autoantibody titer is very low. [WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 003

Card

2/2

ACC NR:

AP8022451

SOURCE CODE: UR/0244/68/027/003/0069/0073

AUTHOR: Tostanovskaya, A. A.; Lapchenko, V. S.; Svatkov, V. I.; Yegorova, G. P.; Gordtsenko, V. Ye.

ORG: Toxicology Laboratory /Head-Candidate of Medical Sciences A. A. Tostanovskaya/ Kiev Scientific Research Institute of Food Hygiene (Toksikologicheskaya laboratoriya Kiyevskiy nauchno-issledovatel'skogo instituta gigiyeny pitaniya)

TITLE: Combined effects of DDT and chlorophos, and thiophos and chlorophos

SOURCE: Voprosy pitaniya, v. 27, no. 3, 1968, 69-73

TOPIC TAGS: biologic synergy, /(U)DDT insecticide, (U)Chlorophos insecticide, (U)Thiophos insecticide

ABSTRACT: Toxicity studies of mixtures of DDT and chlorophos, and chlorophos and thiophos were conducted in albino rats fed threshold, acute, and chronic dosages of the mixtures. The chemicals were mixed in a 1:1 ratio for all tests and the initial dose given was the LD<sub>50</sub> for rats. Thiophos and chlorophos was the more potent mixture, yielding graver results when mixed than with an equivalent dose of either taken alone. The effects of DDT and chlorophos are antagonistic. In single

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UDC: 615.778.3-099-092.259

ACC NR: AP8022451

dosage, the effects of chlorophos are prevalent while in repeated smaller doses DDT-like effects are more common. These conclusions are based on determination of cholinesterase activity, blood sugar levels, and liver glycogen content in poisoned and unpoisoned animals. Histological and gross anatomical examinations were also made in and at higher doses; degeneration of leucocytes and pathomorphological changes typical of acute insecticide poisoning were observed.

[WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 27Dec67/ ORIG REF: 009

Card 2/2

ACC NR: AP8022503

SOURCE CODE: UR/0396/68/012/003/0077/0082

AUTHOR: Uteshev, B. S.

ORG: Department of Pharmacology /Head—Prof. M. F. Merkulov/ Second Moscow Medical Institute im. N. I. Pirogov (Kafedra farmakologii II Moskovskogo meditsinskogo instituta)

TITLE: Role of nucleic acids in immunogenesis

SOURCE: Patologicheskaya fiziologiya i eksperimental'naya terapiya, v. 12, no. 3, 1968, 77-82

TOPIC TAGS: nucleic acid, immunology, immunogenesis

ABSTRACT: A theoretical discussion, based predominantly on western sources, of the role of DNA in immunogenesis is presented. The direction of antibody synthesis by DNA as a specialized activity of generalized protein synthesis has been studied mathematically and physically with extensive use of mathematical modeling. However, little direct experimental evidence exists as to the nature and sequence of early protein synthesis. Accelerated DNA synthesis preceding cell division has been detected consistently in cells of the lymph system when subjected to challenge, whether *in vivo* or *in vitro*. Radioactive tracer methods have

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UDC: 615.739.653-092:612.017.1](047)

ACC NR: AP8022503

revealed not only some of the sequential compounds synthesized during the proliferation of immunologically competent cells but also have shown that the constant exposing of a cell line to an antigenic stimulus results in more rapid DNA synthesis in subcultures. Soviet scientists have discovered that RNA obtained from cell extracts of immune animals stimulate antibody synthesis in nonimmune recipient animals, and in tissue cultures of their cells *in vitro*. Antibody is present in comparatively low titers and this is thought to be caused by the relatively poor cellular permeability to exogenous RNA.

[WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 058

Card 2/2

ACC NR: AT8023474 SOURCE CODE: UR/0000/67/000/000/0082/0085

AUTHOR: Vasil'yeva, N. V.; Loginova, G. A.;

ORG: Department of Microbiology/Head--Prof. V. S. Derkach/ (Kafedra mikrobiologii); TsNIL/Head--Candidate of medical sciences Ye. Ye. Pestova, Scientific director--Prof. A. M. Utevskiy/, Kharkov Medical Institute (TsNIL Khar'kovskogo meditsinskogo instituta)

TITLE: Noradrenalin dynamics in the heart during experimental streptococcal infections

SOURCE: Vsesoyuznaya konferentsiya TsNIL meditsinskikh vuzov SSSR, 1st, Moscow, 1967. Modelirovaniye, metody izucheniya i eksperimental'naya terapiya patologicheskikh protsessov; trudy, chast' II (Modeling, methods of study and experimental therapy of pathological processes; transactions, pt. II), 82-85

TOPIC TAGS: bacterial toxin, heart

ABSTRACT: Dynamics of the noradrenalin level in the heart were connected with the character of the disease produced in rabbits by infection with a live culture of hemolytic *Streptococcus* after preliminary multiple inoculation with killed cultures; by infection with a live culture of the Doshe strain of *Streptococcus* 2.5 months after six daily injections of

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ACC NR:

AT8023474

hemolytic streptococcal toxin; by infection with a live culture of hemolytic *Streptococcus*, group A, type 1, with simultaneous injection of desoxycorticosterone acetate; or by immunization with heart tissue homogenate combined with a live culture of weakly virulent hemolytic *Streptococcus* group A, type 1. Animals of the first group developed septic pyemia and showed increased noradrenalin levels in the heart. The noradrenalin content in the hearts of third-group animals decreased. In first-group animals, adaptation to pyemia was manifested in activation of the sympathetic-adrenal system, while with chronic disease in third-group animals, adaptation consisted of noradrenalin depletion in the myocardium. [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card

2/2

ACC NR:

AP8023943

SOURCE CODE: UR/0218/68/033/003/0604/0611

AUTHOR: Volkova, R. I.

ORG: Institute of Evolutionary Physiology and Biochemistry im. I. M. Sechenov, AN SSSR. Leningrad (Institut evolyutsionnoy fiziologii i biokhimii AN SSSR)

TITLE: Multiple inhibition of acetylcholinesterase by mono- and bis-quaternary ammonium compounds

SOURCE: Biokhimiya, v. 33, no. 3, 1968, 604-611

TOPIC TAGS: cholinesterase inhibitor, cholinolytic agent, monoquaternary nitrogen compound, bisquaternary nitrogen compound, CNS drug effect

ABSTRACT: Inhibition of acetylcholinesterase (AChE) activity by mono- and bis-quaternary ammonium compounds in bovine erythrocytes was investigated. Also the effect of cation reactivators (TMB-4 and 2-PAM) on total AChE inhibition was determined. All of the compounds tested

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UDC: 577.153

ACC NR:

AP8023943

Table 1. Amount of reversal  $K_i$  (M) of mono- and bis-quaternary ammonium cholinesterase inhibitors

Inhibitor	$K_i$		$K_i$ (0.1 M KCl)
	0.01 M KCl	0.1 M KCl	$K_i$ (0.01 M KCl)
 TMA	$2.0 \cdot 10^{-4}$	$1.0 \cdot 10^{-3}$	5.0
 GT-155	$1.2 \cdot 10^{-6}$	$7.3 \cdot 10^{-6}$	0.1
 2-PAM	$2.0 \cdot 10^{-6}$	—	—
 TBB-4	$1.6 \cdot 10^{-6}$	$2.0 \cdot 10^{-6}$	13.1

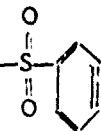
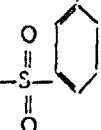
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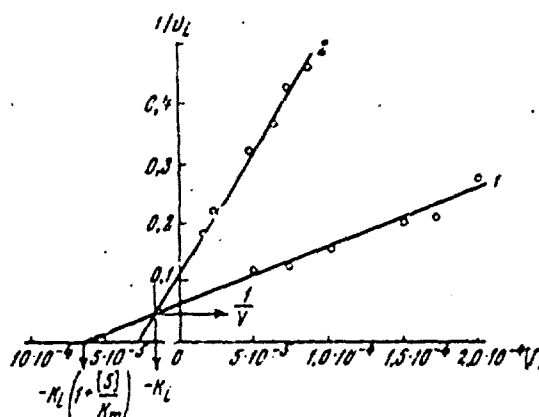
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ACC NR:

AP8023943

Table 1. (Cont.)

$(\text{CH}_3)_3\text{N}^+(\text{CH}_2)_{10}\text{N}^+(\text{CH}_3)_3 2\text{I}^-$ 	Deca-methonium	$4.0 \cdot 10^{-6}$	$7.0 \cdot 10^{-7}$	17.5
$(\text{CH}_3)_3\text{N}^+(\text{CH}_2)_2\text{NH}-\text{SO}_2-\text{C}_6\text{H}_4-\text{SO}_2-\text{C}_6\text{H}_4-\text{SO}_2-\text{NH}-(\text{CH}_2)_2\text{N}^+(\text{CH}_3)_3 2\text{I}^-$ 	KhB-72	$2.0 \cdot 10^{-6}$	$4.0 \cdot 10^{-7}$	20.0

Figura I. Dependence of  $1/v_i$  on  $[I]$  for the determination of TMB-4.

0.1 M KCl, 25°; pH 7.5: 1 —  $1/v_i$  at a cholinesterase concentration of  $1 \cdot 10^{-4}$  M; 2 —  $1/v_i$  at a cholinesterase concentration of  $1 \cdot 10^{-5}$  M

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are reversible AChE inhibitors. The relationship of  $V_i$  and  $V_i'$  are shown in the following formulas where  $K_m$  and  $V$  are acetylcholine

$$v_i = \frac{V[S]}{K_m \left( 1 + \frac{[I]}{K_i} + [S] \right)}$$

$$v_i' = \frac{V[S]}{K_m \left( 1 + \frac{[I]_1}{K_{i,1}} + \frac{[I]_2}{K_{i,2}} \right) + [S]}$$

hydrolysis constants (in the presence of AChE),  $K_{vi} = 0.8 \times 10^{-5}$  M,  $V = 1.06$  or  $1.47 \mu$  M AChE/min in  $0.1$  M KCl, and  $K_m = 5.0 \times 10^{-5}$  M. Decamethonium and KhB-72 were the most active anticholinesterase compounds ( $K_i = 7 \times 10^{-7}$  M and  $4 \times 10^{-7}$  M in  $0.1$  M KCl, respectively). GT-155 was the strongest monoquaternary compound ( $K_i = 7.3 \times 10^{-6}$  M in  $0.1$  M KCl). When KCl concentration is reduced from  $0.1$  M to  $0.01$  M the bisquaternary  $K_i$  is reduced 13—20 times and the monoquaternary  $K_i$  5—6. The bisquaternary reactivator TMB-4 reduces AChE inhibition by decamethonium and KhB-72, but 2-PAM (monoquaternary) does not. Reduction of AChE inhibition by TMB-4 is aided by ionic interaction which also

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Table 2. Multiple inhibition of acetylcholinesterase by various mono- and bisquaternary inhibitors. In parentheses—theoretical amount of inhibition,  $0.01$  M KCl

Inhibitor	Concentration, M-3	Inhibition, %	Combined inhibition, %
Decamethonium	$5 \cdot 10^{-5}$	89,5 (86,5)	
TMB-4	$5 \cdot 10^{-4}$	57,6 (55,8)	75,0 (91,0)
Decamethonium	$5 \cdot 10^{-5}$	88,5 (86,5)	
TMA	$2 \cdot 10^{-3}$	30,6 (30,8)	68,0 (87,5)
Decamethonium	$3 \cdot 10^{-5}$	83,0 (79,0)	
2-PAM	$4 \cdot 10^{-4}$	43,2 (45,0)	80,2 (82,0)
KhB-72	$1 \cdot 10^{-5}$	75,0 (75,0)	
TMB-4	$1 \cdot 10^{-4}$	22,3 (20,0)	58,0 (77,0)
KhB-72	$2 \cdot 10^{-5}$	88,0 (86,0)	
TMA	$2 \cdot 10^{-3}$	31,5 (30,8)	69,2 (87,0)
KhB-72	$1 \cdot 10^{-5}$	75,0 (75,0)	
2-PAM	$2 \cdot 10^{-4}$	31,9 (30,3)	74,5 (77,0)
GT-155	$5 \cdot 10^{-5}$	74,4 (76,2)	
TMA	$1 \cdot 10^{-3}$	28,7 (29,3)	75,0 (76,0)

occurred with TMA, a non nucleophilic compound. Kinetic calculation of the AChE inhibition reduction by bisquaternary inhibitors plus TMB-4 and TMA cannot be caused by cationic competition with the anionic

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ACC NR:

AP8023943

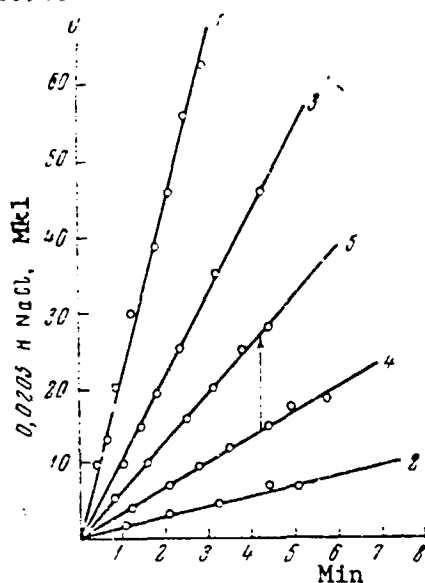


Figure 2. Effect of TMB-4 on the inhibition of cholinesterase activity by decamethonium

1 - Initial cholinesterase activity at an acetylcholine concentration of  $1 \times 10^{-3}$  M; 2 - spontaneous hydrolysis at  $1 \times 10^{-3}$  M acetylcholine; 3 - cholinesterase inhibition at  $5 \times 10^{-4}$  M TMB-4; 4 - cholinesterase inhibition by  $5 \times 10^{-5}$  M of decamethonium; 5 - effect of TMB-4 ( $5 \times 10^{-4}$  M) on inhibition of cholinesterase by decamethonium ( $5 \times 10^{-5}$  M)

centers of AChE. However, ionic competition may be an important factor *in vivo*. Orig. art. has: 2 formulas, 2 figures, and 2 tables.

[WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: 15Nov67/ ORIG REF: 006/ OTH REF: 006

Card

6/6

ACC NR:

AT8023473

SOURCE CODE: UR/0000/67/G00/000/0079/0081

AUTHOR: Voropayeva, S. D.; Kurdyukova, V. G.

ORG: Clinical and Bacteriology Laboratory, Scientific Research Institute of Obstetrics and Gynecology, Ministry of Public Health, SSSR (Kliniko-bakteriologicheskaya laboratoriya nauchno-issledovatel'skogo instituta akusherstva i ginekologii Ministerstvo zdravookhraneniya SSSR); TsNIL im. S. I. Chechulin (Head--Senior Scientific Contributor A. S. Chechulin), First Moscow Order-of-Lenin and Order-of-the-Red-Banner-of-Labor Medical Institute im. I. M. Sechenov (TsNIL I Moskovskogo ordena Lenina i ordena Trudovogo Krasnogo Znameni meditsinskogo instituta)

TITLE: Use of a model of local purulent inflammation in white rats to study the development of antibiotic resistance by Staphylococcus strains

SOURCE: Vsesoyuznaya konferentsiya TsNIL meditsinskikh vuzov SSSR, Moscow, 1967. Modelirovaniye, metody izucheniya i eksperimental'naya terapiya patologicheskikh protsessov; trudy, chast' II (Modeling, methods of study and experimental therapy of pathological processes; transactions, pt. II), 79-81

TOPIC TAGS: streptomycin resistance, penicillin resistance, staphylococcus

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ACC NO: AT8023473

**ABSTRACT:** The development of streptomycin- and penicillin-resistance among *Staphylococcus aureus* strains 13 and Zhayev was studied in a model of local purulent infection produced in white rats by injecting mustard into an air sac created under the skin. One ml of suspension containing 1 billion bacterial cells was introduced into this area after inflammation had developed. Antibiotics in one dose of 20,000 units or two 10,000 unit doses daily for 6 days for streptomycin, or 10,000 units once a day or 5,000 units twice a day for penicillin, were administered from the day after infection. The rate of development of antibiotic resistance depended on the method of antibiotic administration. Double daily injections of antibiotics, which maintained a continuous sub-bacteriostatic concentration in the infectious focus, created more favorable conditions for development of resistance than single daily injections. *Staphylococcus* strains resistant to streptomycin and penicillin isolated from white rats retained all their pathogenic properties (hemolysis, plasma-coagulation, virulence for mice). [WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NO: AT8019324

SOURCE CODE: UR/0000/67/000/000/0051/0059

AUTHOR: Yudin, B. S.; Barsova, L. I.

ORG: none

TITLE: Shrews of the cedar forests of the Lake Teletskoye focus of tickborne encephalitis

SOURCE: AN SSSR. Sibirskoye otdeleniye. Biologicheskii institut. Priroda ochagov kleshchevogo entsefalita na Altaye; severo-vostochnaya chast' (Nature of breeding grounds for tickborne encephalitis in the Altai; northeastern part). Novosibirsk, Izd-vo "Nauka," 1967, 51-59

TOPIC TAGS: encephalitis tick, animal vector research, biologic ecology

**ABSTRACT:** Shrews constitute 41.2—75.0% of the population of small mammals in the mountain cedar forests of the tickborne encephalitis focus around Lake Teletskoye (430—1350 m). Chief species are *Sorex araneus* (up to 52.2% of population) and *S. isodon* (up to 31.8%), but *S. arcticus*, *S. roboratus*, *S. minutus*, *S. caecutiens*, *Neomys fodiens* and *Crocidura ognevi* are also found. *S. minutus* and *S. caecutiens* each accounted for 10% of the shrew population during collections in 1962—1963. Shrews are widespread and fairly evenly distributed in altitude zones of the focus. The reproductive period in the Altai area is longer than on the West

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ACC NR: AT8019324

Siberian plains, and lasts from March to September. The cedar forest area is very favorable for shrews (because of the variety of micro-climates, character of vegetation, soil moisture, etc.). Shrews produce fewer young in this area than on the plains because of the lower mortality rate and longer reproductive period. Orig. art. has: tables.

[WA-50; CBE No. 35] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 013/ OTH REF: 001

Card 2/2

ACC NR: AT8021797 SOURCE CODE: UR/0000/67/000/000/0063/0068

AUTHOR: Zhumatov, Kh. Zh.; Isayeva, Ye. S.; Isayev, K.; Artem'yeva, N. I.

ORG: Institute of Microbiology and Virology AN KazSSR, Alma-Ata (Institut mikrobiologii i virusologii AN KazSSR)

TITLE: Metabolism of high polymer RNA during myxovirus infections of the developing chick embryo

SOURCE: Konferentsiya biokhimikov Respublik Sredney Azii i Kazakhstana, 1st. Alma-Ata, 1966. Trudy (Transactions of the conference of biochemists of the Republics of Central Asia and Kazakhstan). Tashkent, Izd-vo "Fan", 1967, 63-68

TOPIC TAGS: RNA, nucleic acid, bacteriophage, myxovirus

ABSTRACT: Protein synthesis and RNA metabolism in developing chick embryos infected with influenza virus was investigated. Active induction of protein synthesis by infective RNA was noted. Comparative nucleotide determination in infected and uninfected cells and extraction of RNA at various points after infection revealed that virus-infected cells contain more adenilic and cytidilic acid than non-infected cells. Guanilic and

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ACC NR: AT8021797

uridilic acid increase in the first 4—8 hr after infection, while cytidilic acid decreases. Adenilic acid content does not change in this time. After 48 hr there is little difference between experimental and control specimens. Orig. art. has: 2 tables. [WA-50; CBE No. 35] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8022412

SOURCE CODE: UR/0346/68/000/006/0025/0026

AUTHOR: Zhuravel', Ye. Sh. (Aspirant)

ORG: All-Union Institute for Experimental Veterinary Medicine  
(Vsesoyuznyy institut eksperimental'noy veterinarii)

TITLE: Nitrogen component of a nutrient medium for culturing  
*Clostridium perfringens* type D

SOURCE: Veterinariya, no. 6, 1968, 25-26

TOPIC TAGS: *clostridium perfringens*, gas gangrene, culture medium

ABSTRACT: The effects of nitrogen dynamics of the nutrient medium on growth and toxin formation in two strains of *Cl. perfringens* type D were studied. Strain 91 was a standard toxigenic strain and strain 47 was a strain which had lost the ability to produce epsilon-toxin, the basic type-D toxin. Morphological lecithinase, and hemolytic properties were the same for both strains. The organisms were grown on Vinogradov medium and analyses were made after 1.5, 3, 6, 8, 12, 18, 24, and 48 hr. Lethal, lecithinase, and hemolytic properties of the toxin were assayed in white mice, according to the Tyutikov method. Results of biochemical studies of the medium showed that toxin formation begins with cell division

Card 1/2

UDC: 619:616.981.555-093.33:636.32/.38

ACC NR: AP8022412

(3-hr culture) and that lethal, hemolytic and lecithinase activity of the toxin filtrate reached its peak in 12--24-hr cultures. In the highly toxigenic strain (91) amine nitrogen increased most sharply with high growth and toxin-formation rate. In weakly toxigenic strain 47, nitrogenic levels remained fairly constant throughout the entire growth period. [WA-50; CBE No. 35][LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8020804

SOURCE CODE: UR/0297/68/013/006/0538/0541

AUTHOR: Zykov. I. N.

ORG: Department of Infectious Pathology and Experimental Therapy of Infections /Head-- Corresponding member AMN SSSR Prof. Kh. Kh. Planel'yes/ Institute of Epidemiology and Microbiology im. N. F. Gamaleya, Moscow (Otdel infektsionnoy patologii i eksperimental'noy terapii infektsii Instituta epidemiologii i mikrobiologii)

TITLE: The significance of suppressing aerobic intestinal microflora in mice by neomycin and streptomycin on the survival of alien *E. coli* strains

SOURCE: Antibiotiki, v. 13, no. 6, 1968, 538-541

TOPIC TAGS: streptomycin, neomycin, *Escherichia coli*, bacteriology

ABSTRACT: Five hundred unit doses of streptomycin and neomycin were given daily to white mice to decrease the total numbers of intestinal microflora present. Within 48 hr, all *E. coli* were absent from the small intestine, and the concentration of this organism in the colon was very low. All other bacteria were reduced by approximately 50%. After several days the principal component of the intestinal flora was resistant

Card 1/2

UDC: 615.779.9-092:612.336.3

ACC NR: AP8020804

*E. coli* surviving the antibiotic treatment or foreign resistant strains  
introduced experimentally. Orig. art. has: 1 table and 2 figures.  
[WA-50; CBE No. 35] [LF]

SUB CODE: 06/ SUBM DATE: 22May67/ ORIG REF: 003/ OTH REF: 004

Card

2/2

ACCESSION NUMBERS FOR BIOLOGICAL FACTORS

AP8008697	AP8028265	AT8027662
AP8015679		AT8027663
AP8025182	AT8027093	AT8027664
AP8025680	AT8027095	AT8027667
AP8027131	AT8027101	AT8027669
AP8028093	AT8027651	AT8027670
AP8028261	AT8027652	AT8027671
AP8028262	AT8027653	AT8027672
AP8028263	AT8027654	AT8027675

### **III. ENVIRONMENTAL FACTORS**

ACC NR: AT8019066

SOURCE CODE: UR/2531/68/000/207/0110/0120

AUTHOR: Aleksandrov, N. N.

ORG: none

TITLE: Method of determining the total radioactivity of atmospheric fallout

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1958. Voprosy atmosferno diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and air pollution), 110-120

TOPIC TAGS: atmospheric pollution, radioactive fallout, atmospheric radioactivity,  $\beta$ -ray counter

ABSTRACT: A method is proposed by which the total radioactivity of atmospheric fallout can be determined without preliminary calcination of the collected samples. In this technique the gauze or filter used to trap the pollutants is folded into several layers and  $\beta$ -counts are made with counters equipped with STS-5, STS-6, or SBT-10 sensors (the latter type is preferred because of its high sensitivity to  $\beta$  rays). The calibration device (standard) is made of gauze or fabric and contains isotopes whose average  $\beta$ -radiation is close to that of the average fission

Cord

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UDC: 551.577.7

ACC NR:

AT8019066

products being studied. The non-correspondence of the spectra of the investigated samples and of the standard is a measurement of the  $K'$  coefficient. Measurements made with this procedure are compared with those obtained with the calcination technique and end-window counters. With adequate lead shielding and time to measure the background noise, the threshold sensitivity of a sample reduces to  $0.3-0.4 \times 10^{-10}$  curie, i.e. equivalent to that attained by standard techniques. Orig. art. has: 6 figures, 5 tables, and 8 formulas. [WA-50; CBE No. 35][ER]

SUB CODE: 04, 18/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 001

Cord

2:2

AUTHOR: Berlyand, M. Ye. (Doctor of physico-mathematical sciences);  
Onikul, R. I.; Ryabova, G. V.

ORG: none

TITLE: Theory of atmospheric diffusion in fog conditions

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1968. Voprosy atmosfery i zagryazneniya vozdukha (Problems of atmospheric diffusion and air pollution), 3-13

TOPIC TAGS: micrometeorology, atmospheric boundary layer, atmospheric pollution, atmospheric diffusion, fog, fog dispersal, smog, atmospheric turbulence, turbulent exchange, radiation fog, river fog, atmospheric model

ABSTRACT: A theoretical approach is presented for the determination of some of the characteristics of the distribution of atmospheric pollutants in river and radiation fogs. Essentially, this method involves solution of the differential equation

$$u \frac{\partial q}{\partial x} = \frac{\partial}{\partial z} k_z \frac{\partial q}{\partial z} + \frac{\partial}{\partial y} k_y \frac{\partial q}{\partial y} - \alpha q \quad (1)$$

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UDC: 551.510.04

ACC NR:

AT8019052

using the boundary conditions

$$q = \frac{Q}{u} \delta(z - H) \delta(y) \quad (2)$$

and over water surfaces when  $z = 0$ ,

$$q = 0, \quad (3a)$$

and over land surfaces when  $z = 0$ ,

$$k_z \frac{\partial q}{\partial z} = 0, \quad (3b)$$

In this analysis the expression for  $\alpha$  must be taken into account as

$$\alpha = 0.6v \frac{\Delta}{\rho_h r_m^2}. \quad (4)$$

Here,  $x$  is the axis directed along the axis of the average wind,  $y$  is the axis perpendicular to  $x$  in the horizontal plane,  $z$  is the vertical axis,  $q$  is the pollutant concentration at a rather great distance from the fog droplet when  $x = 0$ ,  $u$  is the wind speed,  $k_z$  and  $k_y$  are the corresponding vertical and horizontal components of the coefficient of turbulent exchange,  $\alpha$  characterizes the relative amount of the pollutant absorbed by the fog droplet,  $H$  is the height of the polluting source,  $Q$  is the source output,  $v$  is the

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ACC NR: AT8019052

is the delta function,  $\gamma$  is the coefficient of the molecular diffusion of the pollutant in the air,  $\rho$  is the radius-vector, and  $r_m$  is the radius of the droplet corresponding to the maximum distribution function. The relation of the proportionality of the horizontal component of the coefficient of exchange to the wind speed  $k_y = k_0 u$ , proposed by Berlyand in Trudy GGO, no. 138, 1963, made it possible to interchange the variables and to reduce the three-dimensional system((1)---(3)) to a two-dimensional system similar to that used to describe the distribution of pollutants from a linear source. Using theoretical values for the various factors involved, calculations were made (on a Ural-4 computer) of the turbulent exchange above a river, the water content of the fog relative to river width, temperature of the water surface, relative humidity, lapse rate, wind speed, type of underlying surfaces on both the windward and leeward banks of the river, and for point sources of various heights under various meteorological conditions (with and without fogs, presence of low-level and high-level inversions). Other calculations were made of gaseous pollutant concentrations at various altitudes and distances from the point source or sources and of the absorption of the pollutants by the surface waters of the river. The application of the calculation method to radiation fog was also studied. The diffusion of sulfur gases during these

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ACC NR: AT8019052

fogs (producing highly-corrosive sulfurous acid) is mentioned as being of special interest. Orig. art. has: 2 figures, 3 tables, and 9 formulas. [WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 003

Card 4/4

ACC NR: AT8020710

SOURCE CODE: UR/0000/68/000/000/0017/0020

AUTHOR: Burman, E. A. (Docent); Stupina, F. Ya. (Assistant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Experiment in studying the periodic winds on Lake Baikal

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. K'ev, Izd-vo Kiev. univ., 1968, 17-20

TOPIC TAGS: atmospheric circulation, atmospheric turbulence, wind field, micrometeorology, atmospheric boundary layer, local wind, breeze

ABSTRACT: Results are presented of a study of the periodicity of local winds in the coastal belt around Lake Baikal. The data consisted of observations made at three stations in the southern Baikal area (Slyudyanka, Tankhoy, Babushkin), one in the central area (Goryachinsk), one in the northern area (Nizhne-Angarsk), and one on the western end of Ol'khon Island (Tashkay). Emphasis in the study is on the occurrence of breezes; wind direction, water temperature, the geographic position

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UDC: 551.5

ACC NR:

AT8020710

Table 1. Annual variation in the periodicity index from observations made for 0100 and 1300 hr

Stations	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Slyudyanka	42	64	77	67	68	57	61	71	67	64	42	16
Tankhoy	42	53	58	53	61	53	55	64	60	58	43	30
Babushkin	39	43	36	56	58	50	48	58	45	55	40	29
Goryachinsk	40	68	72	70	80	80	77	73	70	46	14	10
Nizhne-Angarsk	29	36	48	51	78	70	81	78	63	58	33	20
Tashkay	42	53	58	53	61	53	55	64	60	58	43	30

Table 2. Annual variation in the periodicity index from observations made for 0700 and 1900 hr

Stations	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Slyudyanka	26	17	16	23	29	17	19	19	40	26	33	16
Tankhoy	19	17	19	20	23	10	26	35	23	16	10	9
Babushkin	10	21	19	30	36	26	32	19	36	16	20	19
Goryachinsk	16	14	17	19	23	13	16	23	21	16	13	8
Nizhne-Angarsk	13	11	1	10	6	10	29	45	30	19	16	32
Tashkay	19	17	19	20	23	10	26	35	23	16	16	9

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ACC NR: AT8020710

of the weather stations, and the season of the year are taken into account. The results are summarized in tabular form (Table 1 and Table 2). Orig. art. has: 2 tables. [WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 009

Card 3/3

ACC NR: AT8020709

SOURCE CODE: UR/0000/68/000/000/0009/0016

AUTHOR: Burman, E. A. (Docent); Voloshina, Zh. V. (Aspirant); Voloshin, V. G. (Assistant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Some characteristics of lee waves

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 9-16

TOPIC TAGS: atmospheric circulation, mountain circulation, lee wave, wind field, katabatic wind

ABSTRACT: Radiosonde and pilot-balloon observations made during an expedition of the Odessa Hydrometeorological Institute in the Alushta area of the southern part of the Crimea in February and March 1965 are the basic data used in a study of streamlines on the lee side of the mountain range. Of the 35 radiosonde ascents made, 22 were selected on the basis of wind directions which were either normal to the mountain range or deviated by no more than 30° from the normal. Four types of

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UDC: 551.5

ACC NR: AT8020709

streamlines were identified: I - laminar, the wind speed never exceeding 7 m/sec; II and III - wave-type, with wind speeds of 8—15 m/sec; and IV - roll-waves, with wind speeds of 20—25 m/sec. The Scorer parameter  $l^2$  was calculated for all observations and was analyzed jointly with the wind speeds and directions at the appropriate levels of the mountain. These calculations indicated that of the 15 instances when waves of types II and III were possible, the ratio of the maximum value of  $l^2$  at the lower level (1500 m) to the minimum  $l^2$  at the upper level (4500 m) was in the 6 to 20 range and averaged 8.1, i.e. agreed with experimental data and confirmed the fact that in atmospheric waves around obstacles the decrease of  $l^2$  with height should not be less than the critical value of 6 determined in the study. When the streamlines were of the laminar type, the ratio was small and did not reach the critical value. The data also permitted calculation from radiosonde data of vertical flows by a modified Zaychikov method, using the formula

$$W_B = W_a - \left[ \sum_{i=1}^n \left( W_a - B \frac{Q_0}{Q_i} \right) \frac{\omega}{\sum_{i=1}^n \omega_i} + B \frac{Q_0}{Q_i} \right], \quad (1)$$

where  $W_a$  is the absolute rate of radiosonde ascent and B is a coefficient

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ACC NR: AT8020709

which numerically equals the speed at which the vane (in the radiosonde) is set in motion. These calculations were compared with those determined by other methods and were found to be in agreement with them. Analysis of the field of vertical currents showed that intense vertical motions accompany the development of lee waves, with katabatic winds prevailing in the 1—3 km-layer in this area. Orig. art. has: 1 figure, 4 tables, and 7 formulas. [WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001

Card 3/3

ACC NR: AT8019063

SOURCE CODE: UR/2531/68/000/207/0092/0097

AUTHOR: Drozdova, V. M.; Svistov, P. F.

ORG: none

TITLE: Content of some of the trace elements in atmospheric precipitation

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1968. Voprosy atmosfernoï diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and air pollution), 92-97

TOPIC TAGS: atmospheric pollution, trace element, atmospheric precipitation, atmospheric chemistry

ABSTRACT: Results are presented of dry-residue analyses made of atmospheric precipitation (snow and rain) represented by 16 samples taken from various places in the Soviet Union. Qualitative analyses of 16 samples and semi-quantitative analyses of 12 samples were made to determine the types and concentrations of trace elements. Evaporation and cationization techniques were used to concentrate the residues. The spectra of the residues were photographed with a ISP-28 quartz spectrograph. The results are presented in tables. Orig. art. has: 3 tables. [WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 011/ OTH REF: 001

Card 1/1

UDC: 551.578.8

ACC NR: AT8019054

SOURCE CODE: UR/2531/68/000/207/0028/0037

AUTHOR: Dunskiy, V. F.; Nezdyurova, I. S.; Onikul, R. I.

ORG: none

TITLE: Calculation of the dispersion of pollutants settling from a linear source in the atmospheric boundary layer

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1968. Voprosy atmosfernoï diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and air pollution), 28-37

TOPIC TAGS: atmospheric pollution, atmospheric boundary layer, industrial air pollution, atmospheric diffusion, atmospheric turbulence, aerosol

ABSTRACT: The numerical method of calculating the density of monodispersed pollutant fallout, proposed earlier by Berlyand, Byzova, Onikul and others, is extended to calculate the fallout of heavy polydispersed pollutants dispersed evenly onto the underlying surface from an airplane flying perpendicular to the wind direction. The calculations are based on the use of the superposition principle which assumes that the aerosol consists of a certain number of fractions and that the source output of each is known. It is further assumed that each fraction is diffused independently, i.e., that coagulation, evaporation, and aerosol

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UDC: 551.510.04

ACC NR:

AT8019054

subdivision are not involved. Experimental data consisting of balloon and pilot-balloon measurements of lapse rates and wind speeds were used to calculate the atmospheric stratification ( $h = 100$  and  $1.6$  m). These experimental data are compared with the calculated values to obtain an estimate of the magnitude of the coefficient of turbulent diffusion, and the characteristics of the pollutants dispersed in the atmosphere and deposited on the underlying surface under various weather conditions. The proposed calculation method is adjudged adequate for demonstrating the dependence of the coefficient of turbulent exchange on the rate of pollutant fallout rate. Orig. art. has: 5 figures and 17 formulas.

[WA-50; CBE No. 35] [EK]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 001

Card

2/2

ACC NR:

AT8020715

SOURCE CODE: UR/C000/68/000/000/0054/0060

AUTHOR: Foskarino, T. G. (Aspirant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskiy institut)

TITLE: Microstructure of maritime fogs

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 54-60

TOPIC TAGS: fog, maritime fog, fog microstructure, aerosol, cascade impactor, particle size distribution, meteorologic instrument

ABSTRACT: A brief description is given of a cascade impactor and associated equipment used in an investigation of the microcharacteristics of maritime fogs in the vicinity of Odessa. The flow-through velocity in the impactor is set at  $18$  l/min, producing a velocity in the first cascade ( $7.9$  mm in diameter) of  $6.1$  m/sec, and  $16.6$  m/sec in the second cascade ( $4.8$  mm in diameter), i.e. 100% of the particles having radii of more than  $4.7\mu$  settle in the first cascade and all those having radii of more than  $2.2\mu$ , in the second cascade. A microscope with a micrometric adapter is used to determine droplet sizes. The fog droplets are trapped on a glass coated with gelatin dyed with eosin. The coefficient between

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UDC: 551.5

ACC NR:

AT8020715

the droplet diameters and the diameters of the replica on the sampling plate is 0.56. Exposure time is varied as a function of fog density (10—90 sec). Experimental data on advective fog measurements, used to determine the size-distribution of the fog droplets, showed the existence of a wide range of sizes which varied from 2—3 to 70 $\mu$  in diameter, the main mass falling in the 10—20 $\mu$  range. The results obtained from analyses of all available measurements showed that small droplets (up to 5 $\mu$  in diameter) were rare (1%) and that droplets having diameters of more than 50 $\mu$  were even rarer (0.3%). Droplets whose diameters fell in the 10—15 $\mu$  range were most frequent (32%) and droplets having diameters in the 5—20 $\mu$  range comprised 77% of the total number of droplets. The distribution function also varied with time. The particle concentrations of the fogs and the loss of droplets caused by settling on the sides of the intake of the impactor were also calculated. An attempt was also made to analyze the data by using the distribution function proposed by Levin for natural aerosols:

$$P_{\alpha, \beta}(d) = \int_0^d \frac{1}{\Gamma(\alpha+1)\beta^{\alpha+1}} d^{\alpha} \exp\left(-\frac{d}{\beta}\right) Dd = \gamma_{\alpha}\left(\frac{d}{\beta}\right),$$

where  $\gamma_{\alpha}$  is the partial gamma-function index "α." The following fog characteristics were determined: 1) mean arithmetic diameter (15.0 $\mu$ );

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ACC NR:

AT8020715

2) mean square diameter (10—22 $\mu$ ); mean cubic diameter (12—24 $\mu$ ); and  
4) maximum contribution to water content (droplets having diameters of about 20 $\mu$ ). Orig. art. has: 3 figures, 2 tables, and 6 formulas.

[WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card

3/

ACC NR: AT8019060

SOURCE CODE: UR/2531/68/000/207/0076/0081

AUTHOR: Goroshko, B. B.; Yeliseyev, V. S.; Nazarenko, V. Ya.

ORG: none

TITLE: Technique of observing atmospheric pollution from a helicopter

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1968. Voprosy atmosferynoy diffuzii i zagryazneniya vozdukh (Problems of atmospheric diffusion and air pollution), 76-81

TOPIC TAGS: atmospheric pollution, air sampling, aspiration device, gaseous pollutant, dust, aerosol

ABSTRACT: A discussion is presented of the equipment and procedures used by the Division of Atmospheric Diffusion and Air Pollution of the Main Geophysical Observatory to determine from helicopters the amount of air pollution over industrial centers. The study indicates that optimum conditions for making these measurements occur on level flights at 50—70 km/hr using sensors (in MI-1-type helicopters) set about 1 m in front of the fuselage where the turbulence induced by the rotating blades is minimal. The experiments utilized the aspiration method and the "Raketa" collector to determine the weight concentration of the dust

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UDC: 551.510.04

ACC NR: AT8019060

pollutants. At the 50—70 km/hr flight speed, the velocity of the air flow at the tube intake was 15—20 m/sec. Individual solid phases were determined in the laboratory from suspensions. Gaseous concentrations were determined with a specially designed blower. Experience gained with this equipment is adjudged to be very useful in studying industrial air pollution but further improvement of the apparatus is recommended. Orig. art. has: 4 figures and 3 formulas. [WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 002

Card

2/2

ACC NR:

AT8020711

SOURCE CODE: UR/0000/68/000/000/0021/0025

AUTHOR: Gotval'd, S. M. (Assistant); Tingayeva, G. A. (Assistant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Special characteristics of the mountain-valley circulations of two adjoining valleys in the Ukrainian Carpathians

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 21-25

TOPIC TAGS: atmospheric circulation, local wind, wind field, mountain valley circulation

ABSTRACT: The intricate drainage pattern of the Ukrainian Carpathians has a significant effect on the development and character of the mountain and valley winds in the river valleys. The interrelationships of these circulations between adjoining valleys are analyzed on the basis of constant level and other balloon data collected on an expedition of the Odessa Hydrometeorological Institute in the Prut' river valley (the main valley) and in the valley of one of its tributaries, the Lesnichestva

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UDC: 551.5

ACC NR:

AT8020711

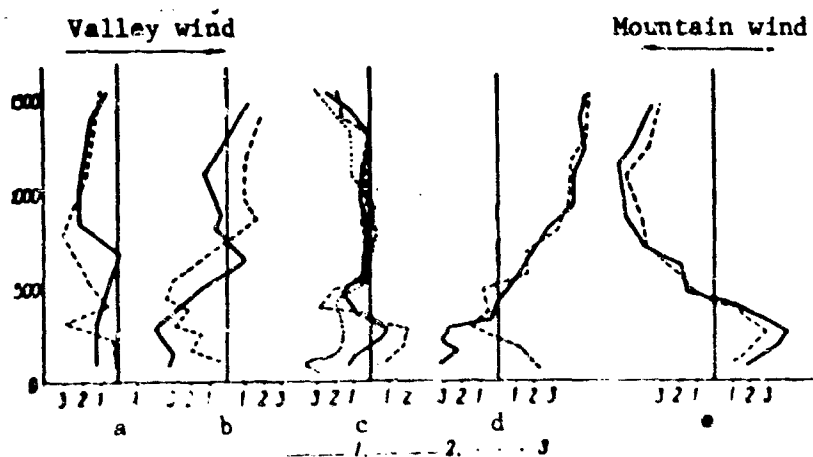


Fig. 1. Graphs of wind-speed projections

a - Wind-speed projections, 4 Sept. at 0300 hr; b - wind-speed projection, 3 Sept. at 2100 hr; c - wind-speed projection, 4 Sept. at 0900 hr; d - wind-speed projection, 3 Sept. at 0900 hr; e - wind-speed projection, 5 Sept. at 1200 hr; 1 - projection of wind speed in the main valley along the axis of the tributary; 2 - projection of wind speed in the tributary valley along the axis of the main valley; 3 - projection of wind speed in the main valley along the axis of the main valley.

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ACC NR: AT8020711

creek. Wind-speed profiles and projections were constructed for both types of circulation and for various observation periods (see Fig. 1). The thicknesses of the atmospheric layer involved in both valleys during both the mountain and the valley winds are reported as follows: in the main valley the mountain winds involved a thickness of about one-third of the valley depth, and the valley winds about one-half of the valley depth; in the tributary valley the corresponding thicknesses were less under identical weather conditions, involving only about one-fourth of the valley depth. Orig. art. has: 2 figures and 1 table.

[WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 002

Card 3/3

ACC NR: AT8020716

SOURCE CODE: UR/0000/68/000/000/0061/0064

AUTHOR: Grossman, Ye. M. (Senior research associate); Gudirenko, A. V. (Assistant); Penchev, Ye. A. (Assistant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Field instrument for the determination of the optical density of aerosols

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 61-64.

TOPIC TACS: meteorologic instrument, photoelectric transmittance meter, aerosol density

ABSTRACT: The Scientific Research Laboratory of the Odessa Hydrometeorological Institute has designed, built, and field tested an instrument [unnamed and not designated by a distinctive abbreviation] to determine the optical density of aerosol sprays and smokes. It differs from similar instruments in that it is designed specifically for field operation, is easy to handle, and can be installed in a motor vehicle. It differs in design in that dispersed light does not affect its operation or reading accuracy (see Figs. 1 and 2).

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UDC: 551.5

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ACC NR: AT8020716

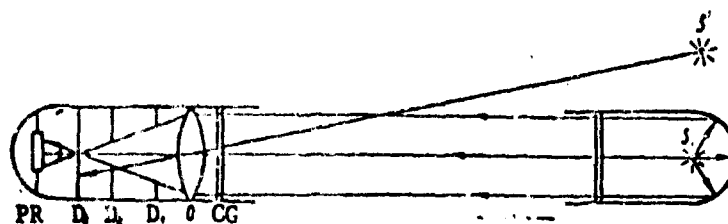


Fig. 1. Optical scheme of the instrument:  
PR - photoresistor; D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub> - diaphragms; O - lens;  
CG - cover glass

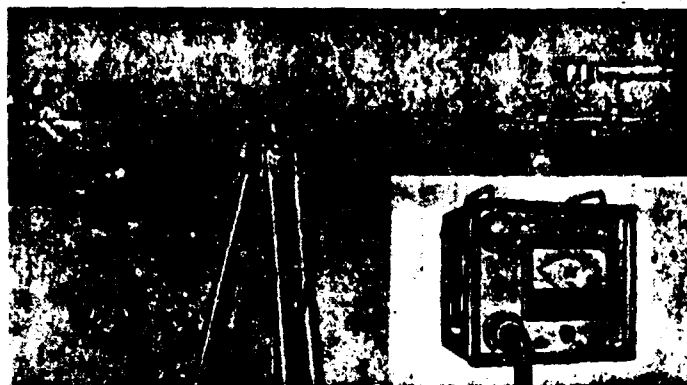


Fig. 2. External view of instrument:

Cord

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ACC NR:

AT8020716

In this instrument, light from the illuminator falls on lens O, passes through the diaphragms D<sub>1</sub> - D<sub>3</sub>, and illuminates the photoresistor PR. Since the last diaphragm D<sub>3</sub> (d = 0.8 mm) is located in the focal plane of the lens, rays from the illuminator, collected on the optical axis in the focal plane, are incident on the photoresistor but rays emitted from another light source S<sup>1</sup> will not reach the receiver. The recorder consists of: 1) A sensor consisting of a FS-K2 photoresistor and the optical system contained in a Dural case, mounted on a horizontal arm attached to a tripod by a ball-bearing socket; 2) A measuring unit, consisting of a d.c. unbalanced bridge, into one arm of which the FS-K2 photoresistor is connected. A magnetoelectric microammeter (50 microampere) is used in the recorder. The microammeter is read visually or the readings of optical density are automatically registered on tape. When the tape is used other smoke or aerosol characteristics can be registered at the same time; 3) The power source, which is a 12-volt storage battery. Orig. art. has: 2 figures. [WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 003

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Cord

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ACC NR: AT8019062

SOURCE CODE: UR/2531/68/000/207/0087/0091

AUTHOR: Lavrinenko, R. F.

ORG: none

TITLE: Sulfur content in atmospheric precipitation

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1968. Voprosy atmosferynoy diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and air pollution), 87-91

TOPIC TAGS: atmospheric pollution, atmospheric precipitation, hydrogen sulfide, sulfate, sulfur dioxide, sulfite

ABSTRACT: Atmospheric precipitation (winter and summer) samples collected in Leningrad and vicinity are analyzed to determine the total sulfur content (sulfites, sulfides, and sulfates). No  $S^{-2}$  ions were detected. Determinations of  $SO^{-2}_3$  ions indicated that these ions were completely oxidized to sulfate ions in a two-three day period following precipitation. It was also found that samples collected in the suburban areas contained a much smaller  $SO^{-2}$  content than did those collected in the city itself. Orig. art. has: 3 tables. [WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 006

Card

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UDC: 551.578.8

ACC NR: AT8020717

SOURCE CODE: UR/0000/68/000/000/0065/0072

AUTHOR: Medvedev, G. A. (Assistant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Errors in the method of single-theodolite pilot balloon observations in investigating mountain-valley winds

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ, 1968, 65-72

TOPIC TAGS: weather forecasting, balloon observation, mountain valley circulation, local wind, mountain wind, valley wind

ABSTRACT: A brief description is given of an investigation carried out to compare the accuracies of two methods used to measure the heights of pilot balloons and wind speeds over areas affected by mountain-valley circulations, i.e., base-line and single-theodolite techniques. The basic data consisted of observations made by both methods in the Prut' river area of the Carpathian Mountains during a two-month period (August to September 1965). The principal sources of errors (absolute and

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UDC: 551.5

ACC NR:

AT8020717

relative) in the single-theodolite method were determined to be both turbulent mixing and vertical motions of the air, which in turn affected the accuracies with which wind directions and speeds were measured. In the single-theodolite method the necessity of taking into account the effects produced by the underlying terrain in mountainous areas is emphasized. Orig. art. has: 2 figures, 3 tables, and 5 formulas.

[WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 007

Card

2/2

ACC NR:

AT8020714

SOURCE CODE: UR/0000/68/000/000/0046/0053

AUTHOR: Novikov, Yu. I. (Senior research associate); Shnaydman, V. A. (Senior lecturer)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Effect of smoke screens on the microclimate of the atmospheric surface boundary layer

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 46-53

TOPIC TAGS: microclimatology, atmospheric boundary layer, air pollution, smoke screen, smoke smudge

ABSTRACT: At the suggestion of D. L. Laykhtman, three experiments were carried out in the Belgorod-Dnestrovsk area to estimate the effectiveness in frost-prevention operations of smoke screens emitted from linear sources at various heights. In these studies, smudge pots were set out along a 45-m line at 3-m intervals. The discharges of the smudge pots were 5 kg/m. hr. Weather observations were made in two areas: a control area (unsmudged area) and a test area (smudged area) located 100 m from

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the smoke front. Soil-temperature measurements (to depths of 20 cm) were made with resistance thermometers, with readings registered with EPP-09 electronic potentiometers. Air temperatures were measured every 15 min at  $h = 0.5, 2.0, 4.0$ , and  $8.0$  m with electric psychrometers; the radiation balance measurements were made with AFI balance meters. The effects produced by the smudges on air temperatures and radiation balance are illustrated in Fig. 1, and the dependence of the radiation effect on wind speed

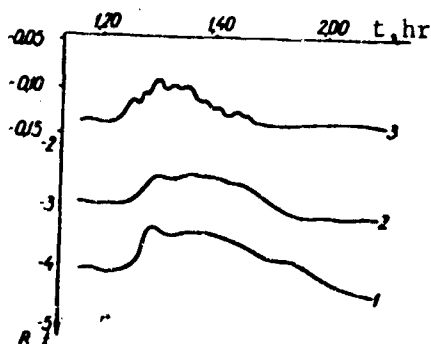


Fig. 1. Variation of temperature and radiation balance during ground-level smudging (13 Oct. 1965)

1, 2 - air temperatures at  $h = 0.05$  and  $h = 2$  m; 3 - radiation balance.

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ACC NR:

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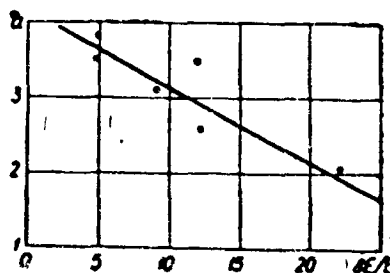


Fig. 2. Dependence of radiational effect on wind speed (at discharge rate of  $5 \text{ kg/m. hr}$ )

Table 1. Mean magnitudes of temperature (in degrees) and radiational (in %) effects during smudging operations (4-13 Oct. 1965).

Height of sensors, m	Height of smudge, m								
	0			5			10		
	1	2	3	1	2	3	1	2	3
0	0.7	0.6	0.3	0.5	0.4	0.3	0.3	0.2	0.1
0.5	—	0.4	—	—	0.3	—	—	0.1	—
2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0
1.5		22			15			7	

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ACC NR: AT8020714

is illustrated in Fig. 2. The dependence of temperature and radiational effects on the height of the sensors is illustrated in Table 1. Orig. art. has: 2 figures, 7 tables, and 1 formula. [WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 001

Card 4/4

ACC NR: AT8019065

SOURCE CODE: UR/2531/68/000/207/0104/0109

AUTHOR: Pastukh, N. V.

ORG: none

TITLE: Some results of the measurement of condensation nuclei concentration under natural conditions

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 207, 1968. Voprosy atmosferynoy diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and air pollution), 104-109

TOPIC TAGS: atmospheric pollution, condensation nuclei, Aitken nuclei, atmospheric surface boundary layer, aerosol, charged particle

ABSTRACT: Laboratory experiments carried out to determine the voltage which must be fed to the electrode of a Scholz counter in order to adapt it for measuring condensation nuclei concentrations (Aitken nuclei having radii between  $5 \times 10^{-7}$  and  $2 \times 10^{-5}$  cm) under natural conditions indicated that a charge of 300 v was adequate. Field experiments were carried out with this equipment from 15 September to 5 December 1965 in the surface boundary layer over the Sablino station area of Leningrad State University. Observations made at Voyeykovo were also used. Ten observation series per day were made to measure the total concentrations of condensation nuclei

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UDC: 551.510.04

ACC NR:

AT8019065

and charged nuclei. Temperature, humidity, and wind speed and direction measurements were made simultaneously with the counter measurements. The mean diurnal variation in condensation nuclei concentration (see Fig. 1) is analyzed in relation to atmospheric turbulence, water vapor

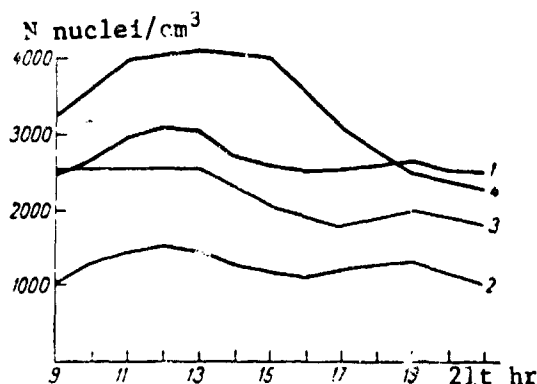


Fig. 1. Mean diurnal variation in condensation nuclei concentration

1 - N(Sablino); 2 - N<sup>+</sup>(Sablino); 3 - N for summer (Voyeykovo); 4 - N for winter (Voyeykovo).

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pressure, wind direction (in terms of air pollution generated in Leningrad), and time of year. Variations in the total concentrations of the charged nuclei were very similar to those of the condensation nuclei. Diurnal variations were affected not only by the total nuclei concentration but also by variations in ionization and atmospheric conductivity. Throughout the observation period the maximum concentration of charged nuclei was  $3130 \text{ cm}^{-3}$ , the minimum concentration was  $300 \text{ cm}^{-3}$ , and the average concentration was  $1260 \text{ cm}^{-3}$ . The mean  $N^+/N$  ratio was determined as 0.47, i.e., closely agrees with the 0.5 value obtained by Ismael in 1957. These results were compared with measurements of N and N<sub>0</sub> made by Zaytsev at various altitudes from aircraft and were found to be somewhat smaller than those reported in the present paper. Orig. art. has: 3 figures and 1 table. [WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 001

Card

3/3

ACC NR: AP8025177 SOURCE CODE: UR/0025/68/000/006/0038/0041

AUTHOR: Petrosyants, M. (Doctor of geographical sciences, Director)

ORG: Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii)

TITLE: Weather prospectors

SOURCE: Nauka i zhizn', no. 6, 1968, 38-41

TOPIC TAGS: meteorologic research facility, meteorologic tower, fog chamber, thermobarochamber, meteorologic instrument

ABSTRACT: The activation [on 16 February 1968] of the Institute of Experimental Meteorology, formed on the basis of the various facilities formerly operated and controlled by the Obninsk Branch of the Institute of Applied Geophysics, has resulted in the publication of a series of new photographs of the 300-m tower, the data control building and its facilities at the base of the tower into which all measurements are fed, the thermobarochambers, an anemometer, and automatic electronic instruments used to measure the microphysical characteristics of artificial clouds. Orig. art. has: 6 figures. [WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none

Card 1/1

ACC NR: AT8020722 SOURCE CODE: UR/0000/68/000/000/0148/0151

AUTHOR: Ramenskiy, L. A. (Engineer)

ORG: Ukrainian Scientific Research Hydrometeorological Institute (Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskii institut)

TITLE: Relationship of hot and sultry weather to air pollution at Odessa

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 148-151

TOPIC TAGS: micrometeorology, air pollution, metropolitan air pollution

ABSTRACT: The air pollution of the city of Odessa, one of the largest health resort areas in the Soviet Union, most frequently exceeds the "acceptable" limits of  $0.05 \text{ mg/m}^3$  in hot weather. The present paper gives a brief report of the results of a study of the relationship between high air temperatures and the air pollution measured over the city and its environs. Data are presented which show the relationship between hot, very hot, and "sultry" (water vapor pressure of 18.8 mb or above—14.1 mm Hg during one of the three observation periods at

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ACC NR: AT8020722

0700, 1300, or 1900 hr and when the air temperature did not drop below 20°) days (Table 1). In 164 instances the coefficient of correlation

Table 1. Distribution of hot, very hot, and sultry days by air-pollution gradations. Odessa, 1959—1963 (number of instances)

Air pollution, mg/m <sup>3</sup>	Days		
	hot	very hot	sultry
0,0 — 0,20	45	5	19
0,21 — 0,50	26	10	16
0,51 — 1,00	59	20	20
>1,00	34	10	15
Total	164	45	70

between the maximum temperatures (above 25°) and the amount of air pollution was 0.16; on very hot days it was 0.27. Orig. art. has: 3 figures and 1 table. [WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 007/ JTH REF: 001

Card 2/2

ACC NR: AT8020721

SOURCE CODE: UR/0000/68/000/000/0136/0141

AUTHOR: Romushkevich, V. I. (Docent)

ORG: Kiev University (Kiyevskiy universitet)

TITLE: Some characteristics of drought phenomena in the Ukraine

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 136-141

TOPIC TAGS: climatology, local wind, sukhovei, dust storm, wind, air temperature, atmospheric turbulence

ABSTRACT: Observations made at 70 weather stations in the Ukraine from 1945 to 1960 are analyzed in a study of the areal distribution, frequency, and duration of droughts (dry spells) in the area. The principal features investigated are the "sukhovei" (hot dry winds) and dust storms. The sukhovei are defined as those winds which occur when in a single observation period, the air temperature is  $\geq 25^\circ$ , the relative humidity is  $\leq 30\%$ , and the wind speed is  $\geq 3$  m/sec. Three areas are identified as zones in which the incidence and coincidence of these drought characteristics are most frequent: 1) central part of the steppe zone (Melitopol—Nizhniye Serogozhy region); 2) eastern Ukraine; and 3) the southwestern part of

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UDC: 551.5

ACC NR: AT8020721

Odessa Oblast. Sketch maps graphically portray these areas and frequencies. The development of the sukhovei is taken as a strong indication of an impending dust storm. Orig. art. has: 4 figures.

[WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

ACC NR: AT8020713

SOURCE CODE: UR/0000/68/000/000/0038/0045

AUTHOR: Voloshin, V. G. (Assistant)

ORG: Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskii institut)

TITLE: Distribution of ground-level concentrations of harmful pollutants in the area of the Odessa thermal electric power station

SOURCE: Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology), no. 3. Kiev, Izd-vo Kiev. univ., 1968, 38-45

TOPIC TAGS: atmospheric pollution, boundary layer pollution, thermal point source, thermoelectric power plant

ABSTRACT: Fifteen industrial plants in Odessa pollute the Odessa atmosphere at the rate of 300—500 g/sec. The largest single source of this pollution consists of ash and sulfur gases emitted by the thermoelectric power plant. In this study the maximum concentrations (single events) of gas and ash and their concentrations at various distances from the stacks were calculated by the method proposed in publications of the Main Geophysical Observatory (Trudy GGO, no. 158, 1965 and no. 172, 1965).

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UDC: 551.5

ACC NR: AT8020713

For this area, the most dangerous wind speed producing maximum pollution was in the 4.5—5.2 m/sec range and depended as well on  $\Delta T$ . In this area winds of these speeds are registered daily at heights of 100 m. The D.L. Laykhtman formula

$$\bar{q}_x = \frac{q_x}{9} [n_0 + C_1(n_{-5} + n_{+5}) + C_2(n_{-10} + n_{+10})] \quad (1)$$

was used to construct the fields of seasonal pollutant concentrations. Here,  $\bar{q}_x$  is the mean concentration in a given direction at a distance  $x$  from the stack in  $\text{mg/m}^3$ ;  $n_0$  is the frequency (in fractions of units) of the wind of a given direction;  $n_{-5}$ ,  $n_{+5}$ ,  $n_{-10}$ ,  $n_{+10}$  is the frequency of wind deviation by angles of  $\pm 5^\circ$  and  $\pm 10^\circ$ , respectively, from the principal direction;  $q_x$  is the single-event concentration at a given distance; and  $C_1$  and  $C_2$  are coefficients which take into account the increment of the mean concentration in a given direction during the period of time when the wind direction differs by  $\pm 5^\circ$  and  $\pm 10^\circ$  from the given direction. The results of these calculations are given in Fig. 1. The maximum pollutant concentration from the thermoelectric power plant occurred at a distance of 2400 m from the stack ( $0.27 \text{ mg/m}^3$  for  $\text{SO}_2$  and  $0.02 \text{ mg/m}^3$  for the ash) and the effluents from it amounted to 40—50%

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ACC NR: AT8020713

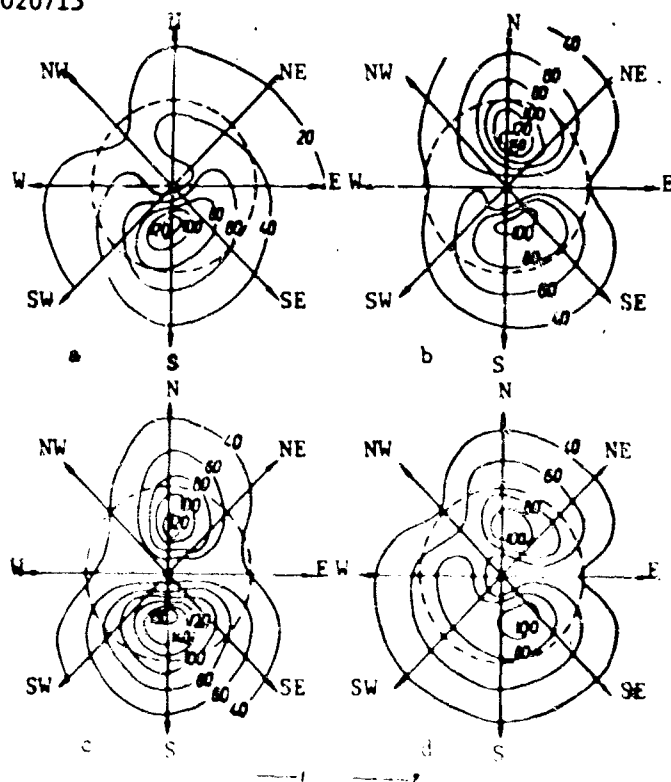


Fig. 1. Fields of seasonal concentrations

a - Winter; b - spring; c - summer  
d - autumn:

1 - Isolines of equal concentrations of  $\text{SO}_2$ ,  $\text{g/m}^3 \cdot 10^{-8}$ ;  
2 - lines of equal distances from source of effluents—5 km

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ACC NR:

AT8020713

of the total pollution in the area. Under anomalous temperature-stratification conditions such as inversions, the air pollution in the area may be twice or triple the acceptable limit of  $0.5 \text{ mg/m}^3$ . Orig. art. has: 2 figures, 2 tables, and 5 formulas. [WA-50; CBE No. 35][ER]

SUB CODE: 04, 13/ SUBM DATE: none/ ORIG REF: 006

Card

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ACC NR:

AP8025882

SOURCE CODE: UR/0050/68/000/006/0119/0119

AUTHOR: Zaytsev, A. S.

ORG: none

TITLE: Inter-institute seminar on the investigation of the emission of industrial effluents into the atmosphere as a function of weather conditions held at the Institute of Experimental Meteorology in Obninsk 1—2 February 1968

SOURCE: Meteorologiya i gidrologiya, no. 6, 1968, 119

TOPIC TAGS: meteorologic conference, air pollution

ABSTRACT: The Institute of Experimental Meteorology in Obninsk was host to an inter-institute seminar whose theme was the investigation of the emission of industrial effluents into the atmosphere as a function of weather conditions. The seminar opened with a paper by M. Ye. Berlyand on the main approaches taken at the Main Geophysical Observatory (GGO) in theoretical studies of atmospheric diffusion and air pollution. He also described the effects of various relief forms on pollutant distribution. Effluent dispersion in the atmosphere and the establishment of norms for smoke stack effluents were discussed in a paper by Ye. N. Tverskiy of the

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ACC NR: AP8025882

Institute of Applied Geophysics (IPG). Another member of the IPG staff, N. Ye. Artemova, presented the results of an analysis of experimental data on the determination of the dependence of average daily pollutant concentrations on wind-direction frequencies and on the thermal conditions in the atmospheric surface boundary layer. A paper by A. S. Zaytsev (GGO) presented the results of experimental studies carried out with helicopters on the distribution of pollutant concentrations in the atmospheric boundary layer in cities and in regions near sources producing large amounts of effluents. L. V. Kirichenko another member of the staff at the IPG, reported on his evaluations of the coefficient of turbulence for various weather conditions as calculated from measurements of natural radioactivity in the atmosphere up to an altitude of 3 km. The interaction of aerosols with underlying surfaces and the relationship of this interaction to pollutant diffusion problems were discussed in a report by N. L. Byzova and K. P. Makon'ko of the Institute of Experimental Meteorology (IEM). Byzova also presented the results of a study dealing with the diffusion of heavy particles and the influence of the vertical rate of particle settling on the coefficient of turbulent diffusion. Another staff member of the IEM, Yu. S. Osipov, described the results of a study of the influence of long-term operation of a point source on the dispersion of pollutant concentrations; he also described the ways in which the magnitude and character of these concentrations varied at certain distances from the

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ACC NR: AP8025882

source. Ye. K. Garger (IEM) described the preliminary results obtained from photogrammetric studies of smoke clouds generated at various levels at the meteorological tower. The state of the air pollution of cities and industrial centers as affected by weather conditions was analyzed in a paper by L. P. Son'kin (GGO). Another paper, presented by Ye. K. Semanov (IPG), discussed the question of subdividing the USSR into regions in accordance with mean annual wind-direction distributions. M. T. Zenin of the Novosibirsk Branch of the Scientific Research Institute of Aeroclimatology presented an analysis of data on the air pollution at Kemerovo. [WA-50; CBE No. 35] [ER]

SUB CODE: 04/ SUBM DATE: none

Card 3/3

ACC NR: AP8022483

SOURCE CODE: UR/0050/68/000/005/0119/0119

AUTHOR: none

ORG: none

TITLE: Organization of the Institute of Experimental Meteorology  
of the Main Administration of the Hydrometeorological Service

SOURCE: Meteorologiya i gidrologiya, no. 5, 1968, 119

TOPIC TAGS: meteorologic research facility

ABSTRACT: The Institute of Experimental Meteorology (IEM) of the Main  
Administration of the Hydrometeorological Service (GUCMS) was organized  
on 16 February 1968 on the basis of the Obninsk Branch of the Institute  
of Applied Geophysics. The new institute's director is Doctor of  
Geographical Sciences, Mikhail Aramansovich Petrosyants.

[WA-50; CBE No. 35][ER]

SUB CODE: 04/ SUBM DATE: none

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ACCESSION NUMBERS FOR ENVIRONMENTAL FACTORS

AP8016102  
AP8022474

AT8016011  
AT8016012  
AT8016102

AT8019266  
AT8020762

## APPENDIX I. SOURCES

Akademie der Wissenschaften zu Berlin. Monatsberichte (Academy of Sciences in Berlin. Monthly Reports)

AMN SSSR. Kazakhskiy institut krayevoy patologii. Trudy. Brutsellez v Kazakhstane (Academy of Medical Sciences of the USSR. Kazakh Institute of Regional Pathology. Transactions. Brucellosis in Kazakhstan)

AMN SSSR. Vestnik (Academy of Medical Sciences of the USSR. Herald)

AN ArmSSR. Doklady (Academy of Sciences of the Armenian SSR. Reports)

AN BSSR. Doklady (Academy of Sciences of the Belorussian SSR. Reports)

AN SSSR. Doklady (Academy of Sciences of the USSR. Reports)

AN SSSR. Izvestiya. Seriya khimicheskaya (Academy of Sciences of the USSR. News. Chemistry Series)

AN SSSR. Sibirskoye otdeleniye. Biologicheskii institut. Priroda ochagov kleshchevogo entsefalita na Altaye; severo-vostochnaya chast' (Academy of Sciences of the USSR. Siberian Branch. Biological Institute. Nature of breeding grounds for tickborne encephalitis in the Altai; northeastern part)

Antibiotiki (Antibiotics)

AN UkrSSR. Dopovidi. Seriya B. Heolohiya, heofizyka, khimiya (Academy of Sciences of the Ukrainian SSR. Reports. Series B. Geology, geophysics, chemistry and biology)

Biofizika (Biophysics)

Biokhimiya (Biochemistry)

Dnepropetrovsk. Meditsinskiy institut. Antibiotiki (Dnepropetrovsk. Medical Institute. Antibiotics)

Entomologicheskoye obozreniye (Entomology review)

Epidemiologiya, mikrobiologiya i infektsiozni bolesti (Epidemiology, microbiology and infectious diseases)

Farmakologiya i toksikologiya (Pharmacology and Toxicology)

Gigiyena i sanitariya (Hygiene and Sanitation)

Gorkiy. Universitet. Uchenyye zapiski. Yady pchel i zmey v biologii i meditsine (Gorkiy. University. Studies. Bee and snake venom in biology and medicine)

Kazanskiy meditsinskiy zhurnal (Kazan Medical Journal)

Khimicheskaya promyshlennost' Ukrainy (Ukrainian Chemical Industry)

Khimiko-farmatsevticheskiy zhurnal (Chemical and Pharmaceutical Journal)

Khimiya geterotsiklicheskiy soedineniy (Chemistry of Heterocyclic Compounds)

Khimiya v sel'skom khozyaystve (Chemistry in Agriculture)

Kiyev. Institut epidemiologii, mikrobiologii i parazitologii. Voprosy immunologii (Institute of Epidemiology, Microbiology and Parasitology. Problems of immunology)

Konferentsiya biokhimikov Respublik Sredney Azii i Kazakhstana, 1st. Alma-Ata. Trudy. (Transactions of the First conference of biochemists of the Republics of Central Asia and Kazakhstan)

Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy. Voprosy atmosfery i diffuzii i zagryazneniya vozdukh (Leningrad. Main Geophysical Observatory. Transactions. Problems of atmospheric diffusion and air pollution)

Leningrad. Universitet. Issledovaniya po genetike (Leningrad. University. Research in genetics)

Meditsinskiy zhurnal Uzbekistana (Uzbekistan Journal of Medicine)

Meteorologiya i gidrologiya (Meteorology and Hydrology)

Meteorologiya, klimatologiya i gidrologiya (Meteorology, climatology and hydrology)

Parazitologiya (Parasitology)

Patologicheskaya fiziologiya i eksperimental'naya terapiya (Pathological Physiology and Experimental Therapy)

Sovetskaya meditsina (Soviet Medicine)

Uzbekskiy biologicheskiy zhurnal (Uzbek Journal of Biology)

Veterinariya (Veterinary Medicine)

Voprosy pitaniya (Problems of nutrition)

Voprosy virusologii (Problems of Virology)

Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal (All-Union Chemical Society. Journal)

Vsesoyuznaya konferentsiya TsNIL meditsinskikh vuzov SSSR, 1st, Moscow. Modelirovaniye, metody izucheniya i eksperimental'naya terapiya patologicheskikh protsessov; trudy, chast' II (All-Union Conference of TsNIL of Higher Medical Schools SSSR, 1st, Moscow. Modeling, methods of study and experimental therapy of pathological processes; transactions, pt. II)

Zashchita rasteniy (Plant Protection)

Zhurnal evolyutsionnoy biokhimii i fiziologii (Journal of Evolutionary Biochemistry and Physiology)

Zhurnal obshchey khimii (Journal of General Chemistry)

Zoologicheskiy zhurnal (Zoological Journal)

## APPENDIX II. ORGANIZATIONS

All-Union Institute for Experimental Veterinary Medicine (Vsesoyuznyy institut eksperimental'noy veterinarii)

All-Union Institute of Experimental Veterinary Science (Vsesoyuznyy institut eksperimental'noy veterinarii)

All-Union Scientific Research Influenza Institute, Leningrad (Vsesoyuznyy nauchno-issledovatel'skiy institut grippa)

All-Union Scientific Research Institute of Antibiotics, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov)

All-Union Scientific-Research Institute of Chemical Reagents and Highly Purified Chemicals (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistikh khimicheskikh veshchestv)

All-Union Scientific Research Institute of Chemicals for Plant Protection (VNIKhSZR), Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

All-Union Scientific Research Institute of Veterinary Sanitation (Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii)

Andizhan Oblast Sanitation and Epidemiological Station (Andizhanskaya oblastnaya sanepidstantsiya)

Belorussian Scientific Research Institute of Neurology, Neurosurgery, Physiotherapy and Balneology (Belorusskiy nauchno-issledovatel'skiy institut nevrologii, neyrokhirurgii, fizioterapii i kurortologii)

Belorussian State Institute of Post-Graduate Medicine (Belorusskiy gosudarstvennyy institut usovershenstvovaniya vrachey)

Botanical Institute im. V. L. Komarov, Academy of Sciences, SSSR (Botanicheskiy institut Akademii nauk SSSR)

Central Asian Scientific Research Anti plague Institute, Alma-Ata (Sredneaziatskiy nauchno-issledovatel'skiy protivochumnyy institut)

Central Scientific Research Disinfection Institute, Moscow (Tsentral'nyy nauchno-issledovatel'skiy desinfektsionnyy institut)

Clinical and Bacteriology Laboratory, Scientific Research Institute of Obstetrics and Gynecology Ministry of Public Health, SSSR (Kliniko-bakteriologicheskaya laboratoriya nauchno-issledovatel'skogo instituta akusherstva i ginekologii Ministerstva zdoravookhraneniya SSSR)

Department of Infectious Diseases First Moscow Order of Lenin and Order of the Red Banner of Labor Medical Institute im. I. M. Sechenov  
(Kafedra infektsionnykh bolezney I Moskovskogo ordena Lenina i ordena Trugovogo Krasnogo Znameni meditsinskogo instituta)

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